

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 3/23/04
Art Unit: 1756 Phone Number 301-571-2722 Serial Number: 09/832,920
Mail Box and Bldg/Room Location: REM 9C75 Results Format Preferred (circle): (PAPER) DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Electrophotographic photosensitive member, process cartridge, and electrophotographic apparatus
Inventors (please provide full names): TAKAKAZU TANAKA, MITSUHIRO KUNIEDA, YUKA NAKAJIMA, HARUOBU OHGAKI
Earliest Priority Filing Date: 4/12/01

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Search compounds of formula CT-1,
CT-3 and CT-8 shown in claim 21
in an electrophotographic photosensitive
member (as photoconductor or photoreceptor).

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>EL</u>	NA Sequence (#) _____	STN <u>\$283.14</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>(3)</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>3-24-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>5</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>70</u>	Other _____	Other (specify) _____

Date 09/832,920 CT-8

(no exact
structural hits
for CT-8)

Page 1

=> file reg

FILE 'REGISTRY' ENTERED AT 10:10:30 ON 24 MAR 2004
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FILE 'HCAPLUS' ENTERED AT 09:50:27 ON 24 MAR 2004

L13 122560 S TANAKA ?/AU
L14 1207 S KUNIEDA ?/AU
L15 32939 S NAKAJIMA ?/AU
L16 700 S OHGAKI ?/AU
L17 0 S L13 AND L14 AND L15 AND L16
L18 1 S L13 AND L14 AND L15
SEL L18 1 RN

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L19 32 S E1-E32
E C23H25N/MF
L20 234 S E3
E C27H25N/MF
L21 126 S E3
E C30H29NO/MF
L22 110 S E3
L23 2 S L19 AND (L20 OR L21 OR L22)
L24 0 S L22 AND L19

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E FLUORENE/CN
L25 1 S E3
L26 257 S 1839.6.36/RID
E BENZENE/CN
L27 1 S E3
L28 13123 S 2 46.150.18/RID

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L29 12745 S L26 AND L28
L30 10 S L29 AND L22
SEL L30 2,3,4,5,6,7 RN
L31 6 S E1-E6
SEL L23 1 RN
L32 1 S E3
SEL L23 2 RN
L33 1 S E8

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L34 5 S L31
L35 1 S L32
L36 52 S L33

FILE 'REGISTRY' ENTERED AT 10:06:08 ON 24 MAR 2004

L37 1 S 161114-54-1

FILE 'ZCA' ENTERED AT 10:07:04 ON 24 MAR 2004

L38 16 S L37

FILE 'CAOLD' ENTERED AT 10:08:59 ON 24 MAR 2004

L39 0 S L37
L40 0 S L33
L41 0 S L34

FILE 'REGISTRY' ENTERED AT 10:10:30 ON 24 MAR 2004

=> file zca

FILE 'ZCA' ENTERED AT 10:10:58 ON 24 MAR 2004

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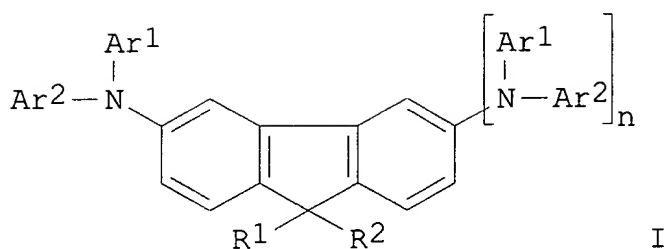
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

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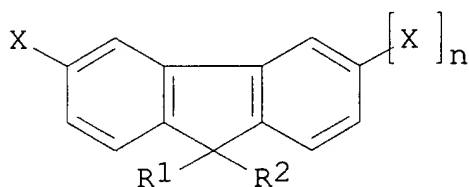
L34 ANSWER 1 OF 5 ZCA COPYRIGHT 2004 ACS on STN

131:351094 Preparation of bisarylamino fluorenes. Watanabe, Makoto;
Yamamoto, Toshihide; Nishiyama, Shoichi; Koie, Yasuyuki (Tosoh
Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11322679 A2 19991124
Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1998-126087 19980508.

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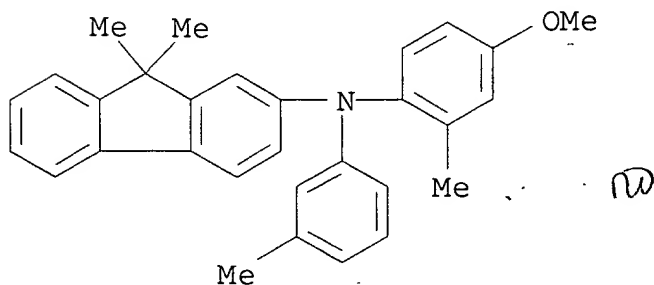


I



II

- AB Title compds. I (R1, R2 = H, alkyl, benzyl; Ar1, Ar2 = aryl; n = 0, 1) are prepd. by reaction of fluorenes II (R1, R2, n = same as above; X = Cl, Br, I) with Ar1NHA2 (Ar1, Ar2 = aryl) in the presence of catalysts contg. (t-Bu)3P and Pd compd. and bases. 2-Bromo-9,9-dimethylfluorene was condensed with di(p-tolyl)amine in the presence of Pd(OAc)2, t-BuONa, and (t-Bu)3P in o-xylene at 120° for 1 h to give 91% 2-di(p-tolyl)amino-9,9-dimethylfluorene.
- IT **250642-08-1P**, 2-[[4-Methoxy-2-methylphenyl]-m-tolylamino]-9,9-dimethylfluorene
(prepn. of bisarylamino fluorenes by condensation of halofluorenes with diarylamines)
- RN 250642-08-1 ZCA
- CN 9H-Fluoren-2-amine, N-(4-methoxy-2-methylphenyl)-9,9-dimethyl-N-(3-methylphenyl)- (9CI) (CA INDEX NAME)



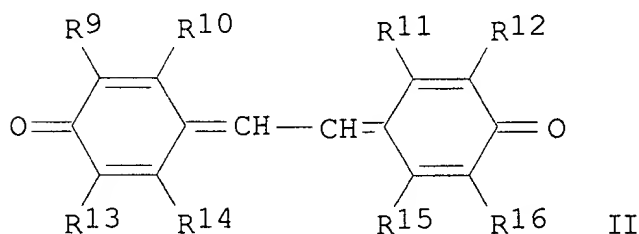
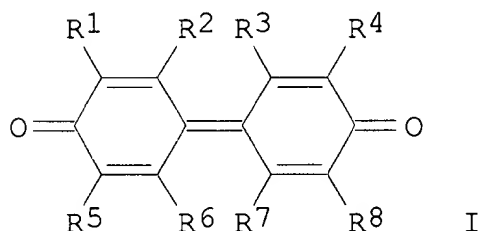
- IT **250642-08-1P**, 2-[[4-Methoxy-2-methylphenyl]-m-tolylamino]-9,9-dimethylfluorene

(prepn. of bisarylaminofluorenes by condensation of halofluorenes with diarylamines)

L34 ANSWER 2 OF 5 ZCA COPYRIGHT 2004 ACS on STN

128:55375 Electrophotographic photoreceptor, process cartridge, and electrophotographic apparatus using it. Kikuchi, Norihiro; Maruyama, Akio (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 09281728 A2 19971031 Heisei, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-114401 19960412.

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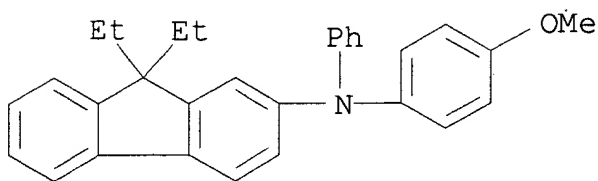
AB The photoreceptor comprises a conductive support coated with a monolayer-type photoconductive layer contg. a charge-generating agent, a fluorene compd. Ar1NAr2Ar3 [Ar1-3 = (substituted) aryl, ≥1 of Ar1-3 is (substituted) fluorene] as an org. pos. hole-transporting agent, a diphenylquinone compd. I or a stilbenequinone compd. II [R1- 16 = (substituted) alkyl, aryl, aralkyl, alkoxy, nitro, cyano, halo] as an org. electron-transporting agent, and a binder. An electrophotog. process cartridge and an app. using the photoreceptor are also claimed. The photoreceptor shows good charging property, photosensitivity, in repeated use and prevents transfer memory in reversal development.

IT 199683-77-7 199683-78-8 199683-79-9

(electrophotog. photoreceptor contg. fluorene compd. pos. hole-transporting agent and quinone compd. electron-transporting agent)

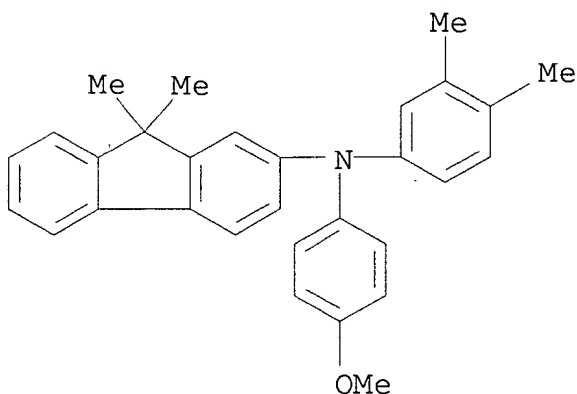
RN 199683-77-7 ZCA

CN 9H-Fluoren-2-amine, 9,9-diethyl-N-(4-methoxyphenyl)-N-phenyl- (9CI)
(CA INDEX NAME)



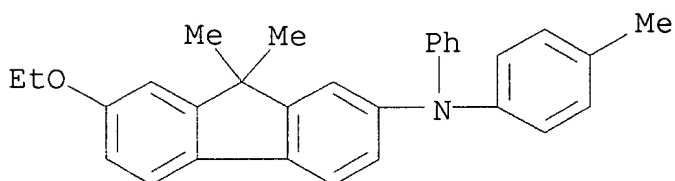
RN 199683-78-8 ZCA

CN 9H-Fluoren-2-amine, N-(3,4-dimethylphenyl)-N-(4-methoxyphenyl)-9,9-dimethyl- (9CI) (CA INDEX NAME)



RN 199683-79-9 ZCA

CN 9H-Fluoren-2-amine, 7-ethoxy-9,9-dimethyl-N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IT 199683-77-7 199683-78-8 199683-79-9

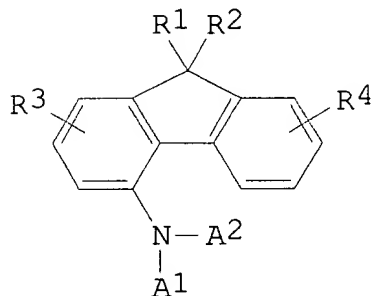
(electrophotog. photoreceptor contg. fluorene compd. pos.
hole-transporting agent and quinone compd. electron-transporting
agent)

L34 ANSWER 3 OF 5 ZCA COPYRIGHT 2004 ACS on STN

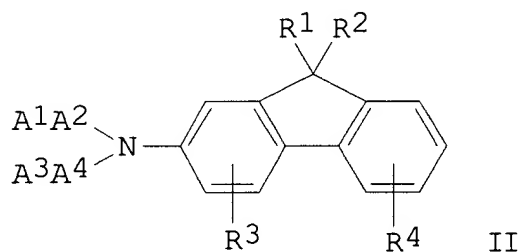
121:191211 High sensitivity and durable organic electrophotographic
photoreceptor. Kikuchi, Norihiro; Kanamaru, Tetsuo; Senoo, Akihiro;

Tanaka, Takakazu (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05303221 A2 19931116 Heisei, 28 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-129418 19920423.

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II

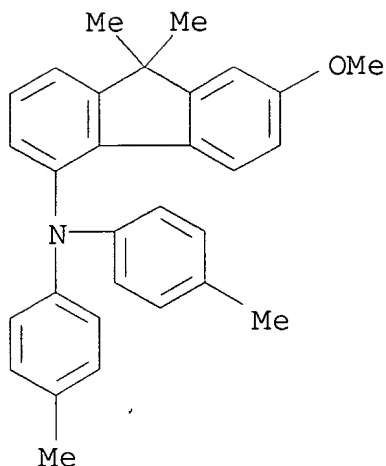
AB The photosensitive layer of the title photoreceptor contains a fluorene compd. I (R1, R2 = H, alkyl, aralkyl, aryl; R3, R4 = R1, halo, alkoxy; A1, A2 = aryl, heterocyclyl) or II (R1, R2 = same as above; R3, R4 = H, halo, OH, alkyl, aralkyl, alkoxy; A1-A4 = aryl, heterocyclyl). The fluorene compds. are used as charge transport substances having high capability for transporting holes and the photoreceptor shows high sensitivity and voltage stability for repeated use.

IT **157861-40-0**

(electrophotog. charge transport substance)

RN 157861-40-0 ZCA

CN 9H-Fluoren-4-amine, 7-methoxy-9,9-dimethyl-N,N-bis(4-methylphenyl)-(9CI) (CA INDEX NAME)



IT 157861-40-0
(electrophotog. charge transport substance)

L34 ANSWER 4 OF 5 ZCA COPYRIGHT 2004 ACS on STN
115:170924 Electrophotographic photoreceptor using phthalocyanine pigment and fluorene derivative. Senoo, Akihiro; Yashiro, Ryoji; Kikuchi, Norihiro; Kanamaru, Tetsuo (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03061952 A2 19910318 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-196599 19890731.

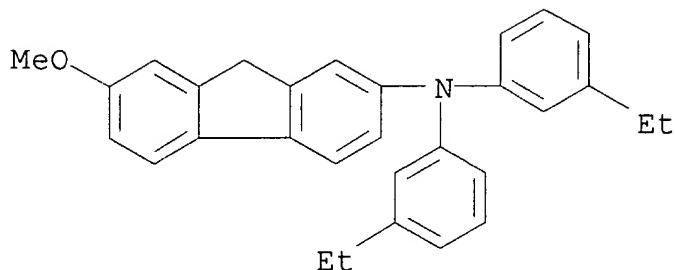
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title photoreceptor comprises an elec. conductive support with coatings of a charge-generating layer contg. ≥ 1 phthalocyanine pigment I (R = H, alkyl, halo, CN, NO₂; M = metal atom except alkali metal; m = 1-4; when M is trivalent, R₁ should be halo, alkyl, or alkoxy and n should be 1; when M is tetravalent, R₁ should be O, halo, alkyl, or alkoxy, when R₁ = O, n = 1, when R₁ \neq O, n = 2), and a charge-transporting layer contg. ≥ 1 fluorene deriv. II (R₂, R₃ = alkyl, R₄ = H, alkyl, alkoxy, halo; R₅, R₆ = H, alkyl, aralkyl, aryl). A photoreceptor using I (R = H, R₁ = O, M = Ti, n = 1) and III showed good photosensitivity and spectral sensitivity in the regions of laser diode oscillation, and good elec. properties and stability.

IT 136189-50-9
(charge-transporting agent, electrophotog. photoreceptor contg.)
RN 136189-50-9 ZCA

CN 9H-Fluoren-2-amine, N,N-bis(3-ethylphenyl)-7-methoxy- (9CI) (CA INDEX NAME)



IT 136189-50-9

(charge-transporting agent, electrophotog. photoreceptor contg.)

L34 ANSWER 5 OF 5 ZCA COPYRIGHT 2004 ACS on STN

115:146631 Electrophotographic photoconductors. Kikuchi, Norihiro; Kanamaru, Tetsuo; Senoo, Akihiro; Yashiro, Ryoji (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03078758 A2 19910403 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-214923 19890823.

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

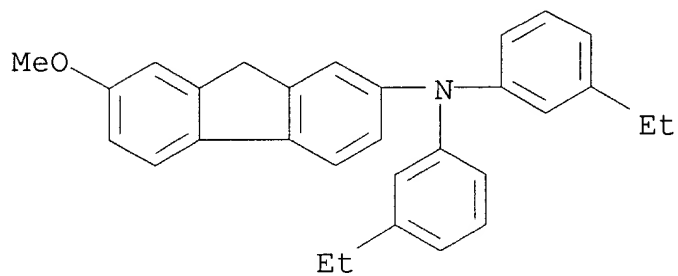
AB Photosensitive layer of the photoconductors contain azo dyes I in charge carrier-generating layer and fluorenes II in charge carrier-transporting layer (R1 = Ph, o-tolyl, 2-ethylphenyl, 2,5-xylyl, 2,4-xylyl, 2-methyl-5-nitrophenyl, 2-methyl-4-methoxyphenyl, 2-methyl-5-chlorophenyl; X = halo; R2-3 = alkyl; R4 = H, alkyl, alkoxyl, halo; R5-6 = H, alkyl, aralkyl, aryl). The fluorenes are typically III (R7-8 = Me, Et). The photoconductors have high and flat sensitivity in wavelength region of laser diodes, and provide stable charging and electrophotog. performance. Thus, a photoconductor having a charge carrier-generating layer contg. azo dye I (R1 = o-ethylphenyl, X = Cl) and poly(vinyl butyral) and a charge carrier-transporting layer contg. a fluorene III (R7-8 = p-methyl) and bisphenol Z polycarbonate was chargeable to -720 V, and showed sensitivity (exposure required for decay of charged voltage to 1/5) 0.74 lx-s. Electrophotog. copying using the photoconductor gave $\geq 10,000$ copies with high and stable quality. The sensitivity in 770-800 nm region was const. within 2%.

IT 136189-50-9

(charge carrier-transporting agent, electrophotog.)

photoconductors contg. azo dyes and)

RN 136189-50-9 ZCA

CN 9H-Fluoren-2-amine, N,N-bis(3-ethylphenyl)-7-methoxy- (9CI) (CA
INDEX NAME)

IT 136189-50-9

(charge carrier-transporting agent, electrophotog.
photoconductors contg. azo dyes and)

=> d 138 1 cbib abs hitstr hitrn

L38 ANSWER 1 OF 16 ZCA COPYRIGHT 2004 ACS on STN

138:80599 Electrophotographic photoreceptor, electrophotographic apparatus using it, and process cartridge for it. Morikawa, Yosuke; Yoshimura, Kimihiro; Nakata, Koichi; Tanaka, Daisuke (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003005411 A2 20030108, 21 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-188614 20010621.

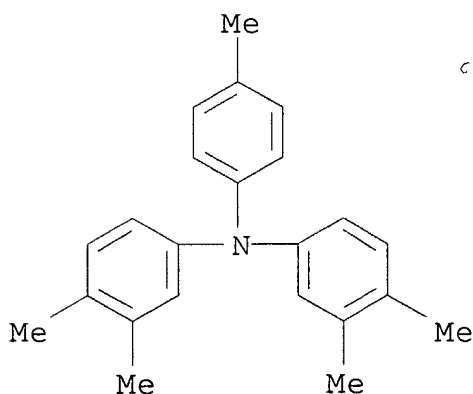
AB The photoreceptor is used for an electrophotog. app. having a contact-charging means comprising charging particles with particle size 10 μm -10 nm and resistance 10¹²-10⁻¹ Ωcm and their carriers which have conductive and elastic surface for supporting the particles at 0.1-50 mg/cm². The photoreceptor has a photosensitive layer and a charge-injecting layer on a conductive support, and the oxidn. potential (Eox) of a charge-transporting material in the photosensitive layer is ≥ 0.60 and < 0.80 V. The process cartridge includes the photoreceptor, the contact-charging means, and development means and/or cleaning means. The photoreceptor can be stably charged, and defect-free images are formed even under vibration.

IT 161114-54-1

(electrophotog. photoreceptor contg. charge-transporting material with controlled oxidn. potential in photosensitive layer for stable contact charging)

RN 161114-54-1 ZCA

CN Benzenamine, N-(3,4-dimethylphenyl)-3,4-dimethyl-N-(4-methylphenyl)-(9CI) (CA INDEX NAME)



IT 161114-54-1

(electrophotog. photoreceptor contg. charge-transporting material with controlled oxidn. potential in photosensitive layer for stable contact charging)

=> d 138 2-16 cbib abs hitrn

L38 ANSWER 2 OF 16 ZCA COPYRIGHT 2004 ACS on STN

136:85546 Effect of Substitution on the Electrochemical and Xerographic Properties of Triarylamines: Correlation to the Hammett Parameter of the Substituent and Calculated HOMO Energy Level. Bender, Timothy P.; Graham, John F.; Duff, James M. (Xerox Research Centre of Canada, Mississauga, ON, L5K 2L1, Can.). Chemistry of Materials, 13(11), 4105-4111 (English) 2001. CODEN: CMATEX. ISSN: 0897-4756. Publisher: American Chemical Society.

AB Both the electrochem. and xerog. properties of triarylamines vary with the nature (quantified by its Hammett parameter, σ) and the frequency of substituents that make up a triarylamine. Three series of triarylamines, encompassing a total of 35 compds., were synthesized by Ullmann condensation of an appropriately substituted aniline with an excess of an appropriately substituted iodophenylene by a published procedure [Goodbrand, H. B.; Hu, N. X. J. Org. Chem. 1999, 64(2), 670-674]. The xerog. properties, including transport properties, of a select no. of compds. were measured as solid-state solns. in polycarbonate-Z. The recorded xerog. properties varied with the measured oxidn. potential (E1/2) of the mol., which in turn correlates to both the Hammett parameter of the substituent and the calcd. HOMO energy level of the triarylamine.

IT 161114-54-1P

(effect of substitution on electrochem. and xerog. properties of triarylamines: correlation to Hammett parameter of substituent and calcd. HOMO energy level)

L38 ANSWER 3 OF 16 ZCA COPYRIGHT 2004 ACS on STN

136:61506 Electrophotographic photoconductor, process cartridge, electrophotographic apparatus, and manufacture of electrophotographic photoconductor. Tanaka, Takakazu; Ogaki, Harunobu; Nakajima, Yuka; Kunieda, Mitsuhiro (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2001356507 A2 20011226, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-110115 20010409. PRIORITY: JP 2000-113811 20000414. not as

AB An electrophotog. photoconductor includes a triarylamine charge transport substance synthesized from an amine compd. and an arylhalide with catalysts of Ar1P(Ar2)Ar3 [Ar1-3 = alkyl, aryl] and Pd compd. The synthesis is carried out in the presence of alkali metal alkoxide. The electrophotog. photoconductor shows excellent sensitivity and durability.

IT 161114-54-1P

(synthesis of triarylamine charge transport substance for electrophotog. photoconductor showing improved durability and sensitivity)

L38 ANSWER 4 OF 16 ZCA COPYRIGHT 2004 ACS on STN

132:173368 Electrophotographic apparatus with fast responding photoconductor. Yamazaki, Kazuo; Yoneyama, Hiroto; Ishii, Toru (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000056626 A2 20000225, 36 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-216603 19980731. PRIORITY: JP 1998-155505 19980604.

AB The electrophotog. app. with a discharge-charge cycle of ≤ 0.1 s utilizes the electrophotog. photoconductor contg. a specific charge transport substance having a specified carrier mobility.

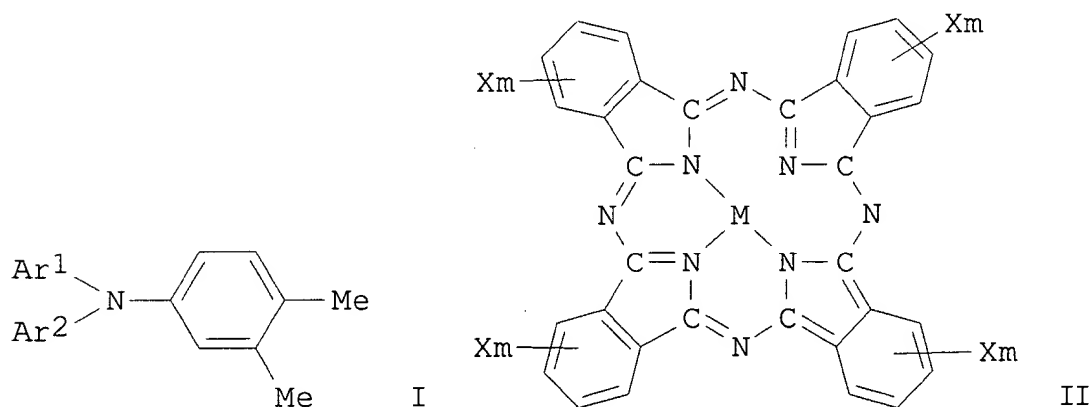
IT 161114-54-1

(electrophotog. app. with fast responding photoconductor contg. specific charge transport substance comprising)

L38 ANSWER 5 OF 16 ZCA COPYRIGHT 2004 ACS on STN

128:277040 Electrophotographic photoreceptor containing triarylamine compound in charge-generating layer and electrophotographic apparatus. Goto, Kouji; Takemoto, Makoto (Fuji Xerox Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10069104 A2 19980310 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-224238 19960826.

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AB In the electrophotog photoreceptor having at least a charge-generating layer and a charge-transporting layer on an elec. conductive support, the charge-generating layer contains an arylamine compd. represented by I (Ar_{1,2} = alkyl, Ph, alkoxy, arom. heterocyclyl). The charge-generating layer contains a phthalocyanine compd. represented by II (M = Cu, Fe, Mg, Si, Ge, Sn, Pb, In, Ga, Al, Ti; X = H, alkyl, alkoxy, alkoxyalkyl, nitro, cyano, halo; m = 0-4) as a charge-generating substance. The electrophotog app. using the photoreceptor was also claimed. The photoreceptor prevented the formation of ghost images because of small carrier trap.

IT 161114-54-1

(electrophotog. photoreceptor contg. triarylamine compd. in charge-generating layer)

L38 ANSWER 6 OF 16 ZCA COPYRIGHT 2004 ACS on STN

127:5191 Preparation of silicon-containing tertiary aromatic amines as charge transport compounds. Kushibiki, Nobuo; Takeuchi, Kikuko (Dow Corning Asia, Ltd., Japan). Eur. Pat. Appl. EP 771806 A1 19970507, 31 pp. DESIGNATED STATES: R: BE, DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1996-117733 19961106. PRIORITY: JP 1995-287634 19951106.

AB A Si-contg. charge transporting material $A[R_1SiR_23-nQ_n]_p$ wherein A denotes an org. group derived from a charge transporting compd. having an ionization potential within the range of 4.5-6.2 eV, which is a tertiary amine having a plurality of arom. groups, R_1 is an alkylene group of 1-18 C atoms, R_2 is a monovalent hydrocarbon group or a halogen-substituted monovalent hydrocarbon group of 1-15 C atoms, Q is a hydrolyzable group; and n and p are each integers from 1-3. E.g., 4-[(EtO) $_3$ SiCH $_2$ CH $_2$]C $_6$ H $_4$ NPh $_2$ is prepd. in 92% yield from the hydrosilylation of (4-vinylphenyl)diphenylamine (1) with (EtO) $_3$ SiH and tris(tetramethyldivinyl)disiloxane)diplatinum catalyst. 1 Was prepd. in 84% yield from a Wittig reaction (NaH/Me $_4$ PBr/1,2-dimethoxyethane) of 4-(Ph $_2$ N)C $_6$ H $_4$ CHO (prepd. from Ph $_3$ N using P(O)Cl $_3$ /DMF reagent in 81% yield).

IT 161114-54-1

(oxidn. and ionization potentials of)

L38 ANSWER 7 OF 16 ZCA COPYRIGHT 2004 ACS on STN

127:5190 Method of manufacturing a silicon-containing charge-transporting material. Kushibiki, Nobuo; Takeuchi, Kikuko (Dow Corning Asia, Ltd., Japan). Eur. Pat. Appl. EP 771807 A1 19970507, 30 pp. DESIGNATED STATES: R: BE, DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1996-117734 19961106. PRIORITY: JP 1995-287644 19951106.

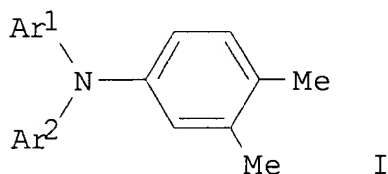
AB A method is disclosed of manufg. charge transporting materials which impart a charge transporting property to a polysiloxane resin, and which materials are sol. in the resin. The charge transporting material is an arom. substituted tertiary amine with a plurality of arom. groups, and a silyl group introduced via a hydrocarbon group, into at least one of the arom. groups. The method uses an unsatd. aliph. group bonded to an arom. group which makes up the Si-type charge transporting compd., or employs a newly bonded unsatd. aliph. group which is bonded to a silane in which the substituent for Si is H atom or a hydrolyzable group. This is conducted in the presence of a Pt compd. as catalyst by hydrosilylation. The Si-type charge transporting material is then brought into contact with an adsorbent for the Pt compd., causing the Pt compd. to be adsorbed on to the adsorbent. The Pt compd. is removed along with the adsorbent, so

that the concn. of residual Pt compd. is <10 ppm. E.g., (4-vinylphenyl)diphenylamine reacts with (EtO)₃SiH in toluene in the presence of tris(tetramethyldivinylidisiloxane)diplatinum catalyst to give 4-[(EtO)₃SiCH₂CH₂]C₆H₄NPh₂.

IT 161114-54-1
(oxidn. and ionization potential of)

L38 ANSWER 8 OF 16 ZCA COPYRIGHT 2004 ACS on STN
126:257047 Electrophotographic photoreceptor containing ethoxygallium phthalocyanine and triarylamine compound. Hongo, Kazuya (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 09043878 A2 19970214 Heisei, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-211433 19950728.

GI

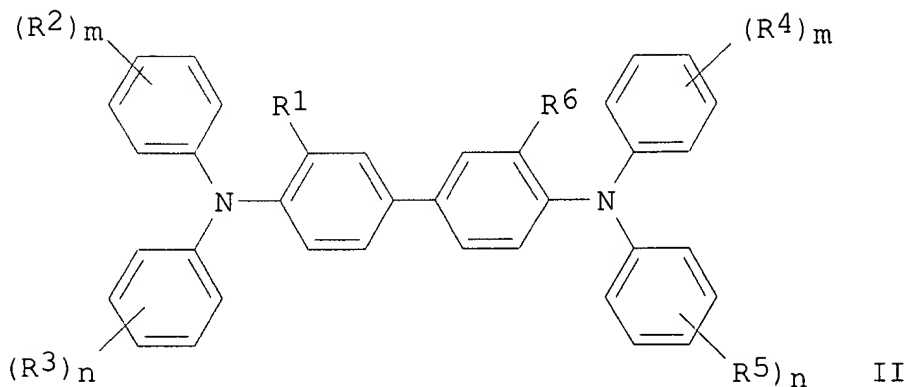
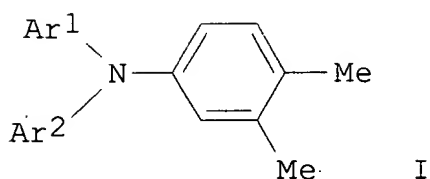


AB The photoreceptor comprises a conductive support coated with a photosensitive layer contg. ethoxygallium phthalocyanine crystal as a charge-generating agent and a triarylamine compd. I [Ar₁, Ar₂ = Ph which may be substituted for alkyl, Ph, alkoxy, or alkyl-substituted Ph group, (alkyl-substituted) polycyclic arom. group, arom. heterocycle] as a charge-transporting agent. The photoreceptor shows high photosensitivity, esp. toward near IR rays of semiconductor lasers and stability in repeated use.

IT 161114-54-1
(electrophotog. photoreceptor contg. ethoxygallium phthalocyanine charge-generating agent and triarylamine compd. as charge-transporting agent)

L38 ANSWER 9 OF 16 ZCA COPYRIGHT 2004 ACS on STN
124:189470 Electrophotographic photoreceptor with triarylamine and benzidine compound. Ishii, Tooru; Kojima, Fumio; Kamisaka, Tomozumi; Mashita, Kyokazu; Nakamura, Kazuyuki; Suzuki, Takahiro (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07271070 A2 19951020 Heisei, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-77776 19940325.

GI



AB The photoreceptor includes a photosensitive layer contg. charge-transporting materials contg. a triarylamine I (Ar1-2 = Ph (substituted by alkyl, Ph, alkyl-substituted Ph, alkoxy), (alkyl-substituted) arom. polycyclic group, arom. heterocyclic group) and a benzidine compd. II (R1 and R6 = H, halo, alkyl, alkoxy; R2-5 = H, halo, alkyl, alkoxy, substituted amino; m, n = 1, 2), on a conductive support. The photoreceptor shows high photosensitivity and good durability.

IT **161114-54-1**

(electrophotog. photoreceptor with triarylamine and benzidine compd.)

L38 ANSWER 10 OF 16 ZCA COPYRIGHT 2004 ACS on STN

124:189448 Electrophotographic photoreceptor and apparatus using the same. Kanamaru, Tetsuo; Nakada, Koichi; Kikuchi, Norihiro (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07281464 A2 19951027 Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-93885 19940408.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB In the electrophotog. photoreceptor having a photosensitive layer on

a conductive support, the photosensitive layer contains a trisazo compd. I (R_1 = alkyl, aralkyl, arom., heterocyclyl; X_1 = H, halo, alkoxy, cyano, nitro) as a charge-generating substance and a triaryl compd. $Ar_2Ar_3NAr_4$ ($Ar_{2,3,4}$ = Ph, in which ≥ 2 of Ph contains C2-4 alkyl) as a charge-transporting substance. The electrophotog. photoreceptor exhibited a high sensitivity as well as a repetitive stability.

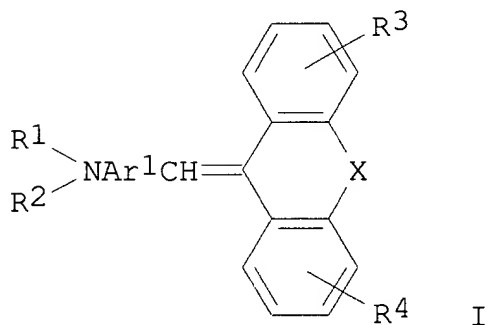
IT 161114-54-1

(electrophotog. photoreceptor and app. using the same)

L38 ANSWER 11 OF 16 ZCA COPYRIGHT 2004 ACS on STN

124:160306 Electrophotographic photoreceptor and apparatus using the same. Kanamaru, Tetsuo; Nakada, Koichi; Kikuchi, Norihiro (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07281462 A2 19951027 Heisei, 34 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-93884 19940408.

GI



AB In the electrophotog. photoreceptor having a photosensitive layer on a conductive support, the photosensitive layer contains a styryl compd. I (X = CH_2CH_2 , $HC:CH$; $R_{1,2}$ = alkyl, aralkyl, arom., heterocyclyl; $R_{3,4}$ = H, halo, alkyl, alkoxy; Ar_1 = arom., heterocyclyl) and a triaryl compd. $Ar_2Ar_3NAr_4$ ($Ar_{2,3,4}$ = Ph, in which ≥ 2 of Ph contains C2-4 alkyl) as a charge-transporting substance. The electrophotog. photoreceptor provided a charge-transporting layer free of crack and crack formation.

IT 161114-54-1

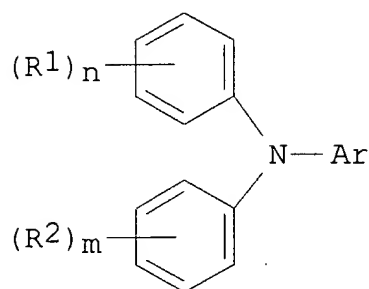
(charge-transporting substance in electrophotog. photoreceptor)

L38 ANSWER 12 OF 16 ZCA COPYRIGHT 2004 ACS on STN

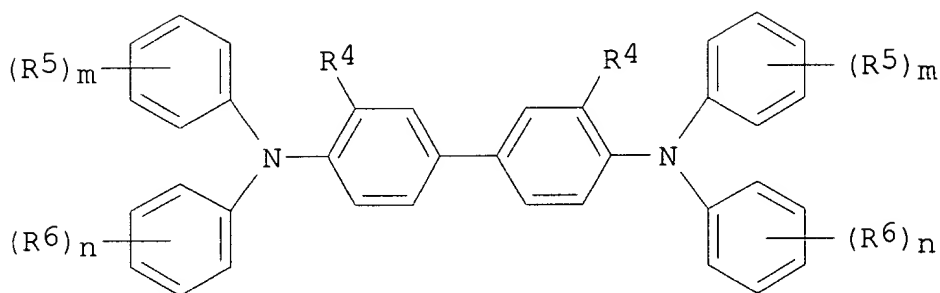
123:270769 Electrophotographic image forming apparatus. Kojima, Fumio; Mashita, Kyokazu; Kobayashi, Tomoo; Kamisaka, Tomozumi; Ishii, Tooru (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07225486 A2 19950822 Heisei, 20 pp. (Japanese). CODEN: JKXXAF. APPLICATION:

JP 1994-39343 19940215.

GI



I



II

AB The title app. employs a photoreceptor having on an elec. conductive support a photosensitive layer contg. ≥ 1 charge-transporting material selected from tri-Ph amine I and benzidine II (R_1 -6 and Ar are specified org. group; $m, n = 0-2$) of m.p. ≥ 100 or mol. wt. ≥ 300 and a charging element using a photoreceptor-connected elec. conductive material for impressing a voltage.

IT 161114-54-1

(charge-transporting material for photoreceptor and electrophotog. app.)

L38 ANSWER 13 OF 16 ZCA COPYRIGHT 2004 ACS on STN

123:183444 Electrophotographic photoreceptors with improved durability. Nakamura, Kazuyuki; Kojima, Fumio; Kamisaka, Tomozumi; Ishii, Tooru; Mashita, Kyokazu; Suzuki, Takahiro (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07084390 A2 19950331 Heisei, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-253660 19930917.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The photoreceptors comprise conductive supports coated with photosensitive layers contg. chlorogallium phthalocyanine (I) as a charge-generating agent and triarylamine compds. II and benzidine compds. III as charge-transporting agents. The photoreceptors show good elec. properties in repeated use. Thus, an Al substrate with an undercoating was coated with a charge-generating layer contg. I and a charge-transporting layer contg. IV and V to give a photoreceptor.

IT 161114-54-1

(electrophotog. photoreceptor contg. chlorogallium phthalocyanine as charge-generating agent and triarylamine and benzidine compds. as charge-transporting agents)

L38 ANSWER 14 OF 16 ZCA COPYRIGHT 2004 ACS on STN

123:97819 Electrophotographic photosensitive member and *w/ cu*
electrophotographic apparatus using same.. Kanemaru, Tetsuro;
Kikuchi, Toshihiro; Senoo, Akihiro; Nakata, Kouichi (Canon K. K.,
Japan). Eur. Pat. Appl. EP 632014 A1 19950104, 40 pp. DESIGNATED
STATES: R: DE, ES, FR, GB, IT. (English). CODEN: EPXXDW.
APPLICATION: EP 1994-304687 19940628. PRIORITY: JP 1993-183185
19930630.

AB An electrophotog. photosensitive member is constituted by disposing a photosensitive layer on a support. The photosensitive layer is characterized by contg. a specific triphenylamine compd. having ≥ 2 Ph groups each substituted with 2 alkyl groups including 1 alkyl group located in meta-position in conjunction with N atom or each substituted with 3 alkyl groups. The photosensitive member is suitable for providing an electrophotog. app. showing excellent electrophotog. characteristics such as a high photosensitivity, a good potential stability in repetitive use, a decreased transfer memory, no crack in the photosensitive layer and no crystn. of a charge-transporting material.

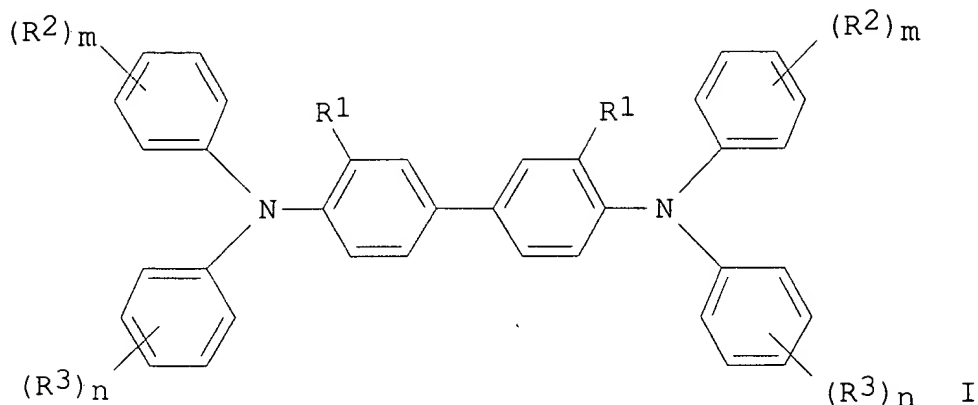
IT 161114-54-1P

(triphenylamine compd. as additive for photosensitive layer)

L38 ANSWER 15 OF 16 ZCA COPYRIGHT 2004 ACS on STN

122:226760 Monolayer-type electrophotographic photoreceptor with good positive charging and light-resistant characteristics. Yamazaki, Kazuo; Sakaguchi, Yasuo; Kobayashi, Tomoo; Nukada, Katsumi; Imai, Akira (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06348051 A2 19941222 Heisei, 14 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1993-163890 19930610.

GI



AB The title photoreceptor comprises a charge generating material comprised of dichloro-tin-phthalocyanine cryst. and a charge transporting material comprised of I (R1 = H, alkyl, alkoxy, halo, R2, R3 = alkyl, alkoxy, halo, substituted-amino; m, n = 0-2) and/or 1-Ar1Ar2N-3,4-di-Me-C6H3 (Ar1, Ar2 = alkyl, alkoxy, Ph, arom. group).

IT **161114-54-1P**, Benzenamine, N-(3,4-dimethylphenyl)-3,4-dimethyl-N-(4-methylphenyl)-
(charge transporting material of electrophotog. photoreceptor)

L38 ANSWER 16 OF 16 ZCA COPYRIGHT 2004 ACS on STN

122:132736 Preparation of triarylamines as electrophotographic photoreceptor charge transport agents. Nukada, Katsumi; Imai, Akira; Igarashi, Ryosaku (Fuji Xerox Co., Ltd., Japan). Eur. Pat. Appl. EP 617005 A2 19940928, 40 pp. DESIGNATED STATES: R: DE, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1994-104499 19940322. PRIORITY: JP 1993-85153 19930322; JP 1993-136927 19930517; JP 1993-191821 19930707.

AB R1R2NC6H3Me2-3,4 [I; R1,R2 = (un)substituted Ph, polycyclic arom.] were prepd. Thus, AcNHC6H3Me2-3,4 (prepn. given) was treated with 4-MeC6H4I to give I (R1 = R2 = 4-MeC6H4). Data for performance of I in electrophotog. photoreceptors were given.

IT **161114-54-1P**
(prepn. of triarylamines as electrophotog. photoreceptor charge transport agents)

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=> d 136 1 cbib abs hitstr hitrn

L36 ANSWER 1 OF 52 ZCA COPYRIGHT 2004 ACS on STN

139:371786 Electrophotographic photoreceptor in process cartridge of electrophotographic image-forming apparatus. Yoshimura, Kimihiro; Takagi, Shinji; Tanaka, Daisuke; Morikawa, Yosuke (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003316035 A2 20031106, 27 pp. *not pa* (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-117333 20020419.

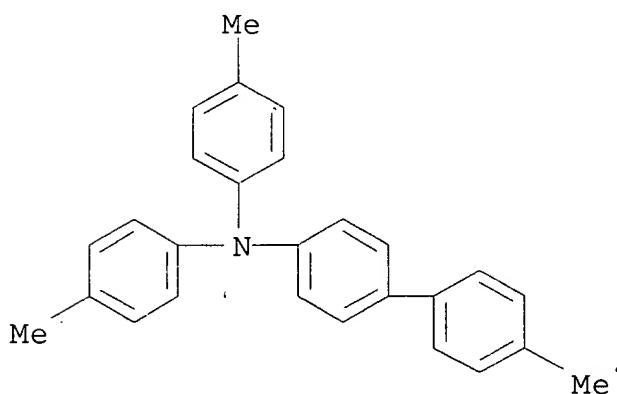
AB The title electrophotog. photoreceptor has a charge-generating layer, a charge-transporting layer contg. ≥ 2 kinds of charge-transporting materials, and a protective layer contg. electroconductive particles and a hardenable resin on an electroconductive support, wherein the charge generating material satisfies the equation: $0.02 < |\Delta E_{ox}| \leq 0.13$ where $|\Delta E_{ox}|$ is the difference of the max. and min. oxidn. potential of the charge-transporting materials and wherein the protective layer satisfies the equations: $1.5 \leq A_c \leq 12.0$; and $5.0 \leq A_L \leq 25.0$ where A_c (at. %) is total content of In and Sn in the surface layer and where A_L (at. %) is the total content of F and Si in the surface layer. The photoreceptor generates little ghost images.

IT 124373-59-7

(charge-transporting agents in electrophotog. photoreceptor)

RN 124373-59-7 ZCA

CN [1,1'-Biphenyl]-4-amine, 4'-methyl-N,N-bis(4-methylphenyl)- (9CI)
(CA INDEX NAME)



IT 124373-59-7

(charge-transporting agents in electrophotog. photoreceptor)

=> d 136 2-52 cbib abs hitrn

L36 ANSWER 2 OF 52 ZCA COPYRIGHT 2004 ACS on STN

139:108646 Electrophotographic apparatus having photoreceptor with high durability and laser exposure means. Yasutomi, Hiroshi; Suzuki, Yasuo (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003202682 A2 20030718, 62 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-295297 20021008. PRIORITY: JP 2001-340055 *not pa* 20011105.

AB The app. is equipped with a photoreceptor having a charge-transporting layer with carrier mobility $\geq 1 + 10^{-5} \text{ cm}^2 \cdot \text{V}^{-1} \cdot \text{sec}^{-1}$ under elec. field $3 + 10^5 \text{ V} \cdot \text{cm}^{-1}$ and a light exposure means with resolu. $\geq 1200 \text{ dpi}$ for formation of latent images on the photoreceptor by using laser beam with beam diam. $\leq 35 \mu\text{m}$. Preferably, the charge-transporting layer contains ≥ 1 charge-transporting compd. with triallylamine structure for obtaining the carrier mobility. The photoreceptor has high durability, and high-quality images with high gradation level can be formed.

IT 124373-59-7

(electrophotog. app. having photoreceptor contg. triallylamine compd. in charge-transporting layer and laser exposure means)

L36 ANSWER 3 OF 52 ZCA COPYRIGHT 2004 ACS on STN

139:92731 Image forming method, image forming apparatus, process cartridge and photoconductor. Kabata, Toshiyuki; Fukagai, Toshio (Japan). U.S. Pat. Appl. Publ. US 2003129511 A1 20030710, 22 pp. *not* (English). CODEN: USXXCO. APPLICATION: US 2002-272828 20021018. PRIORITY: JP 2001-321924 20011019; JP 2002-299482 20021011.

AB The present invention relates to an image forming method wherein a surface of a photoconductor having a photoconductive layer provided on a conductive support is scanned at least along a main scanning direction of the photoconductor with a writing light beam having a wavelength of $\lambda \mu\text{m}$ and a spot diam. $\phi \mu\text{m}$ to form an electrostatic latent image thereon. The surface of the photoconductor has such a roughness that the sectional curve thereof along the main scanning direction is represented by a function $y = f(x)$ when the main scanning direction and the direction of the vertical height are assumed to be the X-axis and the Y-axis, resp. The max. height of the sectional curve in a region from an arbitral position x on the X-axis to a position $(x+\phi)$ on the X-axis is at least $\lambda/2n \mu\text{m}$ where n is a refractive index of the photoconductive layer at the wavelength of the light beam.

IT 124373-59-7

(charge transporting material; image forming method, image forming app., process cartridge and photoconductor contg.)

L36 ANSWER 4 OF 52 ZCA COPYRIGHT 2004 ACS on STN

138:245532 Electrophotographic photoreceptor, and image forming method, image forming apparatus and process cartridge therefor using the photoreceptor. Ikegami, Takaaki; Suzuki, Yasuo; Shimada, Tomoyuki;

Tamoto, Nozomu; Kami, Hidetoshi (Ricoh Company, Ltd., Japan). Eur. Pat. Appl. EP 1291723 A2 20030312, 84 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK. (English). CODEN: EPXXDW. APPLICATION: EP 2002-20005 20020905, PRIORITY: JP 2001-271060 20010906; JP 2001-338194 20011102; JP 2001-367085 20011130; JP 2002-48616 20020225; JP 2002-54889 20020228; JP 2002-54911 20020228; JP 2002-163547 20020604; JP 2002-188643 20020627.

AB The present invention relates to an electrophotog. photoreceptor including at least an electroconductive substrate; and a photosensitive layer located overlying the electroconductive substrate, wherein the photosensitive layer comprises an amino compd. The present invention provides an electrophotog. photoreceptor having high durability against a repeated use for a long time, preventing deterioration of image d. and blurred images and stably producing high quality images.

IT 124373-59-7

(charge transfer material; electrophotog. photoreceptor for image forming method and image forming app. and process cartridge contg.)

L36 ANSWER 5 OF 52 ZCA COPYRIGHT 2004 ACS on STN

138:18011 Electrophotographic photoreceptor containing fillers with concentration gradients in surface protective layer, electrophotography using the same, electrophotographic apparatus, and process cartridge. Niimi, Tatsuya; Matsuyama, Akihiko; Tamoto, Nozomu; Kurimoto, Eiji; Kami, Hidetoshi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002351115 A2 20021204, 44 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-73216 20020315. PRIORITY: JP 2001-80547 20010321.

AB The electrophotog. photoreceptor contains in a surface protective layer ≥ 2 types of fillers which have different vol. av. grain diams. and have concn. gradients increasing from a photosensitive layer side to the surface. The fillers may be inorg. pigments and metal oxides having sp. resistivities $\geq 10^{10}$ $\Omega \cdot \text{cm}$. The metal oxide may include silica, alumina, zirconia and titania surface-treated with a silane coupling agent. The protective layer also contains a charge-transporting substance and/or a charge-transporting polymer.

IT 124373-59-7

(electrophotog. photoreceptor contg. in surface protective layer)

L36 ANSWER 6 OF 52 ZCA COPYRIGHT 2004 ACS on STN

138:18004 Electrophotographic photoreceptor containing filler with concentration gradients in surface protective layer and electrophotographic apparatus. Niimi, Tatsuya (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002351114 A2 20021204, 44 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-28623 (20020205) *NS*
 PRIORITY: JP 2001-83469 20010322.

AB The electrophotog. photoreceptor contains in a surface protective layer ≥ 2 types of fillers which have different vol. av. grain diams. and have concn. gradients increasing from a photosensitive layer side to the surface. The fillers may be inorg. pigments and metal oxides having sp. resistivities $\geq 10^{10}$ $\Omega \cdot \text{cm}$. The metal oxide may include silica, alumina, zirconia and titania surface-treated with a silane coupling agent. The protective layer also contains polycarbonate and/or polyarylate. The protective layer also contains a charge-transporting substance and/or a charge-transporting polymer.

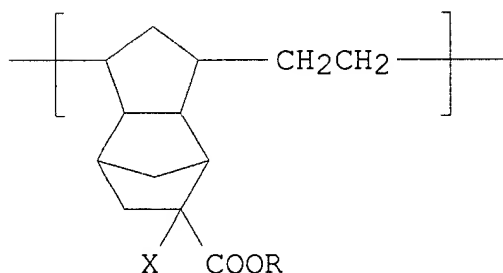
IT **124373-59-7**

(charge-transporting substance; electrophotog. photoreceptor contg. in surface protective layer)

L36 ANSWER 7 OF 52 ZCA COPYRIGHT 2004 ACS on STN

137:391036 Electrophotographic photoreceptor containing alicyclic resin in surface protective layer, process cartridge, and electrophotographic apparatus. Nagai, Kazukiyo; Suzuki, Tetsuo; Tamoto, Nozomu; Shimada, Tomoyuki; Nanba, Michihiko; Kawamura, Shinichi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002341576 A2 20021127, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-169909 20010605. PRIORITY: JP 2001-72283 20010314.

GI



I

AB The electrophotog. photoreceptor contains an alicyclic resin represented by I ($\text{X} = \text{H}, \text{Me}$; $\text{R} = \text{C1-6 alkyl}$) in a surface protective layer. The surface protective layer further contains a low mol. wt. charge-transporting substance such as an aminophenyl donor. The process cartridge and the electrophotog. app. using a 390-460-nm semiconductor laser are also claimed. The use of the alicyclic

resin in the surface protective layer prevents image blurs caused by the formation of NO_x in the electrophotog. app.

IT 124373-59-7

(electrophotog. photoreceptor contg. alicyclic resin and low mol. wt. charge-transporting substance in surface protective layer)

L36 ANSWER 8 OF 52 ZCA COPYRIGHT 2004 ACS on STN

137:391024 Image-forming apparatus using short-wavelength light source. Niimi, Tatsuya (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002341563 A2 (20021127) 35 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP-2002-65981 20020311. PRIORITY: JP 2001-68201 20010312.

AB The image-forming app. is characterized in that a photosensitive layer on a translucent substrate has a mobility $\geq 1 + 10^{-5}$ (cm²/V/s) at a field intensity $\geq 3 + 10^5$ (V/s) and a light source such as a LED has a wavelength ≤ 450 nm. The photosensitive layer contains a charge-transporting substance such as Ar₁R₁C=CR₂(HC=CH)kAr₂NR₃R₄ (R₁-4 = H, alkyl, aryl; Ar₁ = aryl; and Ar₂ = arylene) in a charge-transporting layer. The image-forming app. provided excellent images with high image d. free of moire interference.

IT 124373-59-7

(charge-transporting substance in electrophotog. photoreceptor)

L36 ANSWER 9 OF 52 ZCA COPYRIGHT 2004 ACS on STN

136:270531 Electrophotographic photoreceptor having specific charge-transporting layer characteristics for process cartridge of electrophotographic apparatus. Shimada, Tomoyuki; Nagai, Kazukiyo; Nanba, Michihiko; Kawamura, Shinichi; Tanaka, Chiaki (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002091022 A2 20020327, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-312336 20001012. PRIORITY: JP 1999-289337 19991012; JP 2000-88446 20000328; JP 2000-208846 20000710.

AB The title photoreceptor has light-sensitive layers, which includes a charge-generating layer and a charge-transporting layer, on an electroconductive support, wherein the charge-transporting layer transmits 390-460 nm monochrome light and has ≤ 0.8 luminescence efficiency. The photoreceptor shows the high sensitivity towards 400-450 nm light and the long service-life.

IT 124373-59-7

(charge-transporting compd. in electrophotog. photoreceptor)

L36 ANSWER 10 OF 52 ZCA COPYRIGHT 2004 ACS on STN

136:224184 Electrophotographic photoconductor, image forming apparatus, and process cartridge using the photoconductor. Shimada, Tomoyuki; Nagai, Kazukiyo; Tanaka, Chiaki; Namba, Michihiko; Kawamura, Shinichi (Ricoh Company, Ltd., Japan). U.S. Pat. Appl. Publ. US 20020028400 A1 20020307, 42 pp. (English). CODEN: USXXCO.

APPLICATION: US 2001-817151 20010327. PRIORITY: JP 2000-88446 20000328; JP 2000-208846 20000710; JP 2000-312336 20001012.

AB An electrophotog. photoconductor has an electroconductive support, and a charge generation layer and a charge transport layer successively formed on the electroconductive support, the charge transport layer allowing any monochromatic light with a wavelength in a wavelength region of 390-460 nm to pass through and exhibiting a fluorescence generation coefficient of ≤ 0.8 when irradiated with the monochromatic light. An electrophotog. image forming app. and a process cartridge employ the above-mentioned photoconductor.

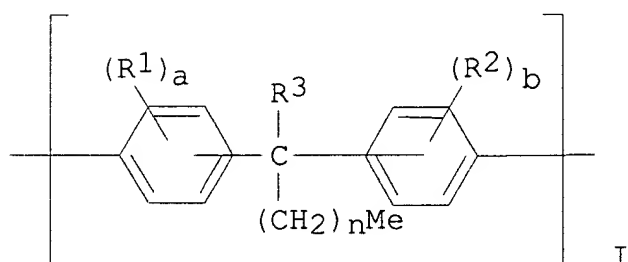
IT **124373-59-7**

(charge transport material; electrophotog. photoconductor for image forming app. and process cartridge contg.)

L36 ANSWER 11 OF 52 ZCA COPYRIGHT 2004 ACS on STN

136:207670 Electrophotographic photoconductor, image forming method and apparatus, and process cartridge using the photoconductor, and long-chain alkyl group containing bisphenol compound and polymer made therefrom. Kawamura, Shinichi; Nagai, Kazukiyo; Shimada, Tomoyuki; Tanaka, Chiaki; Namba, Michihiko (Ricoh Company, Ltd., Japan). U.S. Pat. Appl. Publ. US 2002025483 A1 20020228, 40 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-814722 20010323. PRIORITY: JP 2000-83304 20000324; JP 2000-323941 20001024; JP 2001-47310 20010222.

GI



AB An electrophotog. photoconductor has an electroconductive support and a photoconductive layer which is formed thereon and contains at least one resin of a polyurethane resin, a polyester resin, or a polycarbonate resin, each resin having at least a structural unit I (R1-2 = halogen, C1-6 alkyl or aryl group; R3 = C1-6 alkyl or $-(\text{CH}_2)_m\text{CH}_3$; a, b = 0-4; n, m = 8-27) are the same as those specified in the specification. An electrophotog. image forming app. and method, and a process cartridge employ the above photoconductor.

IT **124373-59-7**

(charge transport material; electrophotog. photoconductor charge transport layer contg.)

L36 ANSWER 12 OF 52 ZCA COPYRIGHT 2004 ACS on STN

136:126476 Purification of material for electronic use using activated clay, and purified product. Abe, Katsumi; Nishimura, Tomonori; Watanabe, Takanobu; Suzuka, Susumu (Hodogaya Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002014478 A2 20020118, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-199334 20000630.

AB Purifn. of the material or its intermediate for electronic use, e.g. electrophotog. photoreceptors and electroluminescent materials, is carried out by dissolving it in an org. solvent, followed by contacting with activated clay at 65-200°, preferably at 80-130°. The purified material gives highly sensitive electronic app.

IT 124373-59-7P

(charge-transporting agent; purifn. of material for electronic use using activated clay)

L36 ANSWER 13 OF 52 ZCA COPYRIGHT 2004 ACS on STN

136:61506 Electrophotographic photoconductor, process cartridge, electrophotographic apparatus, and manufacture of electrophotographic photoconductor. Tanaka, Takakazu; Ogaki, ^{instat} ~~suppl~~ Harunobu; Nakajima, Yuka; Kunieda, Mitsuhiro (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2001356507 A2 ~~20011226~~ ^{instat} 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-110115 20010409. PRIORITY: JP 2000-113811 20000414.

AB An electrophotog. photoconductor includes a triarylamine charge transport substance synthesized from an amine compd. and an arylhalide with catalysts of Ar1P(Ar2)Ar3 [Ar1-3 = alkyl, aryl] and Pd compd. The synthesis is carried out in the presence of alkali metal alkoxide. The electrophotog. photoconductor shows excellent sensitivity and durability.

IT 124373-59-7P

(synthesis of triarylamine charge transport substance for electrophotog. photoconductor showing improved durability and sensitivity)

L36 ANSWER 14 OF 52 ZCA COPYRIGHT 2004 ACS on STN

135:84282 Electrophotographic photoreceptor, process, apparatus, and process cartridge. Niimi, Tatsuya; Suzuki, Tetsuro; Rokutanzone, Takashi (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001188372 A2 20010710, 46 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-148719 20000519. PRIORITY: JP 1999-299822 19991021.

AB The photoreceptor has, on a conductive substrate, at least (A) a charge generating layer contg. a titanyl phthalocyanine having (1) a diffraction peak max. at least at 27.2° Bragg angle (20

$\pm 0.2^\circ$) of $\text{CuK}\alpha$ characteristic x-rays (wavelength = 1.514\AA), (2) a diffraction peak at 7.3° of the lowest angle side, and (3) the diffraction peak at 26.3° , of which intensity is 1-10% of that of the peak at 27.2° and (B) a charge transporting layer, having mobility $\geq 1 \times 10^{-5}$ cm/V-s at elec. field intensity on imagewise exposure in real use of the photoreceptor and contg. (a) a low mol. wt. charge-transporting agent and a binder or (b) a polymer charge-transporting agent. The process and the app. involve at least the obtained photoreceptor contained in the process cartridge and repeatedly charging, imagewise exposing, developing, and transferring devices. The photoreceptor prevents chargeability decrease and residual potential increase, showing improved abrasion resistance.

IT 124373-59-7

(charge-transporting agent; electrophotog. photoreceptor with charge-generating layer contg. titanyl phthalocyanine and mobility-controlled charge-transporting layer)

L36 ANSWER 15 OF 52 ZCA COPYRIGHT 2004 ACS on STN

134:318642 Electrophotographic photoconductor, method and apparatus for electrophotographic printing, and process cartridge for the apparatus. Niimi, Tatsuya; Suzuki, Tetsuro (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001117249 A2 20010427, 43 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-299145 19991021.

AB The photoconductor involves a charge-generating layer and another layer contg. low-mol. charge-transporting agent and an inert polymer on an elec. conductive support wherein the charge-generating layer contains titanyl phthalocyanine having max. x-ray diffraction peak ($\text{CuK}\alpha$, $\pm 2^\circ$) at Bragg angle 2θ 27.2° and another peak at 7.3° as the lowest angle and charge carrier mobility $\geq 1 \times 10^{-5}$ cm/Vs in the charge-transporting layer under an elec. field intensity in exposure for latent image formation. The method, the app., and the process cartridge for printing by repeatedly charging, exposing, developing, transferring, cleaning, and discharging of the photoconductor are also claimed. The photoreceptor shows retention of chargeability and no increase of residual potential in repeated use.

IT 124373-59-7

(electrophotog. photoconductor using titanyl phthalocyanine and charge-transporting agent with regulated charge carrier mobility)

L36 ANSWER 16 OF 52 ZCA COPYRIGHT 2004 ACS on STN

134:123542 Electrophotographic photoconductor using titanyl phthalocyanine and method, apparatus, and process cartridge for electrophotographic printing. Arami, Tatsuya; Suzuki, Tetsuro (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001019871 A2 20010123, 55 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-133886 20000502. PRIORITY: JP 1999-125871 19990506.

AB The electrophotog. photoconductor uses titanyl phthalocyanine, as a charge-generating agent, having the max. diffraction peak at a Bragg angle ($2\theta \pm 0.2^\circ$; CuK α characteristics x-ray 1.514 Å) at least at 27.2° and at 7.3° as the smallest angle. The agent is prepd. from amorphous titanyl phthalocanine having the max. diffraction peak at 7.0 - 7.5° by crystal conversion in an org. solvent in the presence of water. A soln. in which the agent is dispersed for electrophotog. photoconductor and the method, the app., and the process cartridge having a part for charging for electrophotog. printing are also claimed. The photoconductor shows improved wear resistance and retention of high sensitivity, high chargeability, and low residual potential.

IT 124373-59-7

(charge-transporting agent; titanyl phthalocyanine with specific crystal structure for electrophotog. photoconductor using)

L36 ANSWER 17 OF 52 ZCA COPYRIGHT 2004 ACS on STN

133:274208 Electrophotographic photosensitive member, process cartridge, and electrophotographic apparatus. Nagasaka, Hideaki (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 1039349 A1 20000927, 15 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-105649 20000317. PRIORITY: JP 1999-75417 19990319.

AB The invention relates to a photog. photo sensitive member and also a process cartridge and an electrophotog. app. including such a photosensitive member. An electrophotog. photosensitive member capable of exhibiting stable potential characteristics and image forming performances under wide ranges of environmental conditions, is formed of an electroconductive support, and an intermediate layer and a photosensitive layer disposed in this order on the electroconductive support. The intermediate layer comprises a thermosetting resin and an organometallic compd., which may comprise a polymer of a compd. represented by formula (1) below: $(RO)_m-M-(L)_n$ wherein R denotes an alkyl group; M denotes Al, Ti, Zr, Ge or Si; L denotes an org. group; m and n are integers of at least 0 giving $m+n = 3$ in case of M being Al and $m+n = 4$ in case of M being Ti, Zr, Ge or Si.

IT 124373-59-7

(prepn. of electrophotog. photosensitive member and process cartridge using)

L36 ANSWER 18 OF 52 ZCA COPYRIGHT 2004 ACS on STN

133:35997 Electron-transfer process in layered photoreceptors containing azo compounds. Shimada, Tomoyuki; Sasaki, Masaomi; Aruga, Tamotsu; Umeda, Minoru (Imaging Technol. Div., Ricoh Co. Ltd., Numazu, 410-0004, Japan). Bulletin of the Chemical Society of Japan, 73(4),

785-793 (English) 2000. CODEN: BCSJA8. ISSN: 0009-2673.
Publisher: Chemical Society of Japan.

AB Photoinduced electron transfer (ET) is the most essential process for carrier photogeneration in org. optoelectronic devices. In azo compd.-based layered photoreceptors, carrier photogeneration is sensitized by hole transport material (HTM) incorporation. The authors investigated this process to elucidate the sensitizing mechanism. First, the photoinduced ET efficiency and overall quantum efficiency were measured and compared for the layered photoreceptor and the carrier generation layer. The result that the HTM enhances the photoinduced ET implies that the HTM works catalytically to diminish the activation energy. Although such extrinsic ET takes place independently of an elec. field, the subsequent geminate pair dissocn. depends on the elec. field. Next, the energy-gap dependence of the ET was investigated by employing more than 50 photoreceptors to vary the energy gap over a wide range. The measured efficiency was plotted against the energy gap, in which an inverted region was not obsd.

IT 124373-59-7P

(photoinduced electron transfer in layered electrophotog. photoreceptors contg. azo compd. in charge generation layer and diphenylamine-derived hole transport sensitizer in carrier transport layer)

L36 ANSWER 19 OF 52 ZCA COPYRIGHT 2004 ACS on STN

132:229464 Electrophotographic apparatus, electrophotographic photoreceptor, and process cartridge. Kikuchi, Norihiro; Suzuki, Koichi; Amanomiya, Shoji (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2000081756 A2 20000321, 58 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-251163 19980904.

AB In the title app. including a photoreceptor, a charging means of charging the photoreceptor by applying a voltage to the charging member which forms a nip portion with the photoreceptor and is made of a magnetic brush in which magnetic particles are magnetically bounded, an exposing means, a developing means, and a transferring means, the surface layer of the photoreceptor contains a charge-transporting substance of the formula Ar1NAr2Ar3, R1NAr4Ar5Ar6, R2NR3Ar7Ar8NR4R5 or R6NR7Ar9XAr10NR8R9 [Ar1-4, Ar6 = (substituted) aryl; Ar5, Ar7-10 = (substituted) arylene; R1-9 = alkyl, aralkyl, vinyl, aryl (these groups may be substituted), ≥2 of R2-5 and ≥2 of R6-9 are (substituted) aryl, Ar1 and Ar2, R1 and Ar4, R2 and R3, R4 and R5, R6 and R7 or R8 and R9 may form a ring directly or through other org. residues, Ar5 and Ar6 or Ar7 and Ar8 may form a ring through other org. residues; X = (substituted) alkylene, (substituted) arylene, CR10:CR11 [R10, R11 = (substituted) alkyl, (substituted) aryl, H], CO, SO, SO2, NR12 [R12 = (substituted) alkyl, (substituted) aryl], org. residue which may contain ≥1 of O and S] and the surface of the photoreceptor

amp 21

is injection-charged in the presence of conductive, non-magnetic charging-promoting particles having an electronegativity of ≤ 16 and a main particle diam. ranging from 10 nm to 5 μm at the charging member-photoreceptor-contacted surface. The photoreceptor used in the above app. and a process cartridge, including the photoreceptor and ≥ 1 of a charging means, a means of supplying the charging-promoting particles to the charging member-photoreceptor-contacted surface, a developing means, and a cleaning means, are also claimed. The app. is capable of improving the uniformity in charging and injection-charging without generation of ozone.

IT 124373-59-7

(electrophotog. photoreceptor with charge-transporting layer contg. arom. amine compd.)

L36 ANSWER 20 OF 52 ZCA COPYRIGHT 2004 ACS on STN

132:129992 Electrophotographic photosensitive member, process cartridge, and electrophotographic apparatus. Kunieda, Mitsuhiro; Kikuchi, Toshihiro; Kanemaru, Tesuro; Nakajima, Yuka (Canon Kabushiki Kaisha, Japan). Eur. Pat. Appl. EP 977087 A1 20000202, 63 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1999-114933 19990730. PRIORITY: JP 1998-217770 19980731; JP 1998-217779 19980731; JP 1998-217780 19980731.

AB An electrophotog. photosensitive member, suitable for use with a semiconductor laser light source having a wavelength of 380 nm to 500 nm, comprises a conductive substrate, a charge-generating layer, and a charge-transporting layer, the charge-transporting layer having a transmittance of at least 30% for the semiconductor laser light source. A process cartridge mountable to and detachable from an electrophotog. app. including the electrophotog. photosensitive member is disclosed. An electrophotog. app. including the electrophotog. photosensitive member is also disclosed.

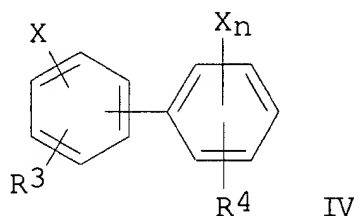
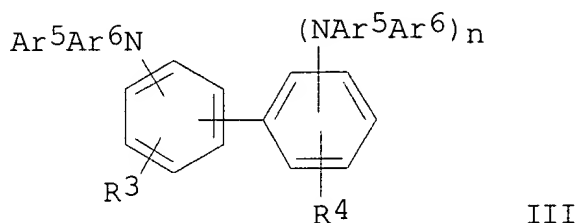
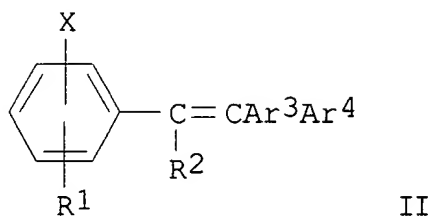
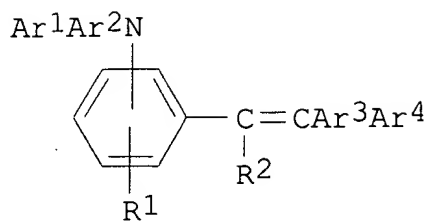
IT 124373-59-7

(electrophotog photoreceptors with charge-transporting layers contg.)

L36 ANSWER 21 OF 52 ZCA COPYRIGHT 2004 ACS on STN

131:293269 Preparation of charge-transporting compound by Ullmann reaction and electrophotographic photoreceptor using the compound. Nakata, Koichi; Kanamaru, Tetsuo; Kikuchi, Norihiro (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 11282180 A2 19991015 Heisei, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-86641 19980331.

GI



AB Charge-transporting compds. of the general formula I [R1 = (substituted) alkyl, (substituted) aralkyl, (substituted) aryl, (substituted) alkoxy, (substituted) halomethyl, F, H; R2 = (substituted) alkyl, (substituted) aralkyl, (substituted) aryl, H; Ar1-2 = (substituted) aryl, H; Ar3, Ar4 = (substituted) alkyl, (substituted) aralkyl, (substituted) aryl, H; Ar3 and Ar4 may form a ring; X = halo] are synthesized by the Ullmann reaction using halo compds. II and the corresponding diarylamines Ar1Ar2NH in an amt. of ≥ 3 times mol of the halo compds. Other types of charge-transporting compds. III [R3, R4 = (substituted) alkyl, (substituted) aryl, (substituted) alkoxy, (substituted) halomethyl, F, H; Ar5, Ar6 = (substituted) aryl; X = halo; n = 0 or 1] also may be synthesized by the Ullmann reaction using halo compds. IV and the corresponding diarylamines Ar5Ar6NH in an amt. of ≥ 3 times and ≥ 4 times mol of the halo compds. for the compds. III (n = 0) and (n = 1), resp. An electrophotog. photoreceptor is also claimed, possessing a charge-transporting layer contg. the charge-transporting compd. The charge-transporting compds. with low impurities such as byproducts showing bad effects on electrophotog. properties can be synthesized readily in good yield and high purity.

IT 124373-59-7P

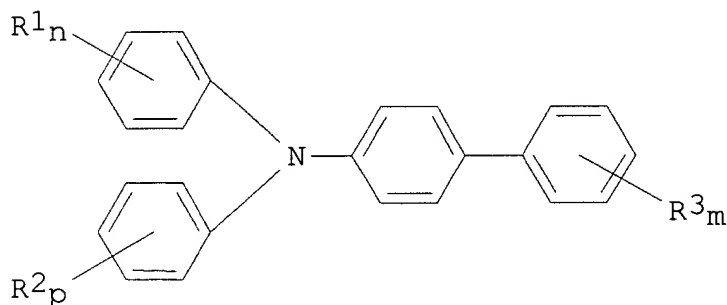
(prepn. of electrophotog. charge-transporting agent by Ullmann reaction of diarylamine and halo compd.)

L36 ANSWER 22 OF 52 ZCA COPYRIGHT 2004 ACS on STN

131:108877 Electrophotographic photoreceptor containing biphenyl compound and process cartridge and electrophotographic apparatus containing it. Kanamaru, Tetsuo; Kikuchi, Norihiro; Nakata, Koichi (Canon K. K., Japan). Jpn. Kokai Tokyo Koho JP 11184108 A2

19990709 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION:
JP 1997-357631 19971225.

GI



AB The photoreceptor has a photosensitive layer contg. a biphenyl compd. I [R1-3 = (substituted) alkyl, alkoxy, aryl; n, p, m = 0-2; n = p = m ≠ 0] and a compd. showing the max. absorption wavelength 380-480 nm. The process cartridge, which is removable from an electrophotog. app. has ≥1 unit selected from the above photoreceptor, a charging means, a developing means, and a cleaning means. The electrophotog. app. has the above electrophotog. photoreceptor, a charging unit, an imagewise exposure unit, a development unit, and a transfer unit. The photoreceptor shows high sensitivity and improved durability in repeated use.

IT **124373-59-7**

(charge-transporting agent; electrophotog. photoreceptor contg. biphenyl deriv. charge-transporting agent and orange-yellow pigment additive with sp. max. absorption wavelength)

L36 ANSWER 23 OF 52 ZCA COPYRIGHT 2004 ACS on STN

130:175144 Electron transfer and geminate pair dissociation processes in layered photoreceptors containing azo compounds. Umeda, Minoru (Research & Development Center, Ricoh Company, Ltd., Yokohama, 224-0035, Japan). Proceedings of SPIE-The International Society for Optical Engineering, 3471(Xerographic Photoreceptors and Organic Photorefractive Materials IV), 212-223 (English) 1998. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

AB Photoinduced electron transfer (ET) and geminate hole-electron pair dissocn. are the most essential processes for carrier photogeneration in org. materials. In azo-compd.-based layered photoreceptors, carrier photogeneration is sensitized by hole transport material (HTM) incorporation. The authors investigated these two processes to elucidate the highly sensitizing mechanism. First, the photoinduced ET efficiency and overall quantum efficiency

were measured and compared for the layered photoreceptor and carrier generation layer. The result that the HTM enhances the photoinduced ET implies that the HTM works catalytically to diminish the activation energy. Although such extrinsic ET takes place independently of an elec. field, the subsequent geminate pair dissocn. depends on an elec. field. Next, the energy gap dependence of the ET was investigated employing more than 50 photoreceptors to vary the energy gap over a wide range. The efficiency measured was plotted against the energy gap, in which the inverted region was not obsd. This result was explained by the small change in ET activation energy even when the energy gap is large, which is a feature of charge sepn. The Marcus inverted region reported for titanyl-phthalocyanine-based photoreceptors was compared with the azo-based system. Finally, the dissocn. process of geminate pairs in Azo and HTM was investigated and compared employing five azo compds. The result that the dissocn. efficiency strongly depends on the azo compd. revealed that the reaction consists of $\text{Azo}^- + \text{Azo} \rightarrow \text{Azo} + \text{Azo}^-$. The dissocn. efficiency exhibited a strong relationship with the polarizability of photoexcited azo compd. It is concluded that the strong polarizability of photoexcited azo compd. enhances geminate pair dissocn.

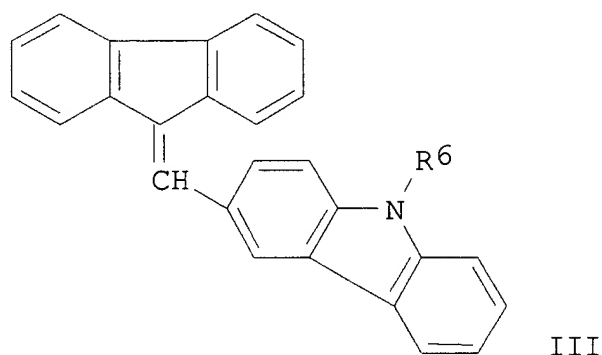
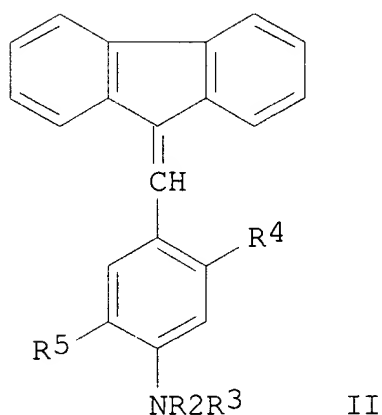
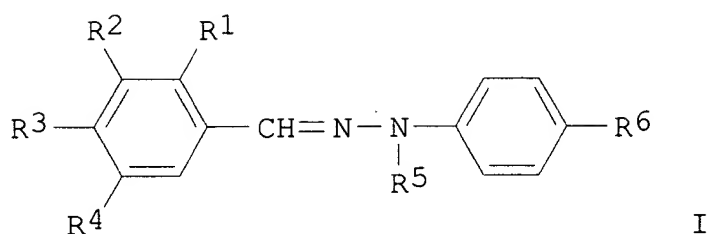
IT 124373-59-7

(charge transport material; photoinduced electron transfer and geminate hole-electron pair dissocn. in layered electrophotog. photoreceptors contg. azo compds.)

L36 ANSWER 24 OF 52 ZCA COPYRIGHT 2004 ACS on STN

129:283407 Electrophotographic photoreceptor with improved sensitivity and durability. Umeda, Minoru; Sakon, Yota; Ikegami, Takaaki; Kurimoto, Eiji (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10239879 A2 19980911 Heisei, 223 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-62270 19970228.

GI



AB The title photoreceptor contains I (R1-4, R6 = H, halo, lower alkyl, lower alkoxy, di-lower alkylamino, dibenzylamino; R5 = lower alkyl, benzyl) and II (R1 = H, halo, CN, lower alkyl; R2, R3 = H, lower alkyl, benzyl; R4, R5 = H, halo, lower alkyl, lower alkoxy, di-lower alkylamino) or III (R1 = H, halo, CN, lower alkyl; R6 = H, lower alkyl, benzyl) in a photosensitive layer. Other charge transport materials are also claimed with Markush structures.

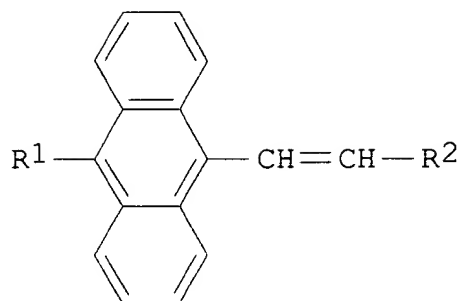
IT **124373-59-7**

(charge transport material in electrophotog. photoreceptor with improved sensitivity and durability)

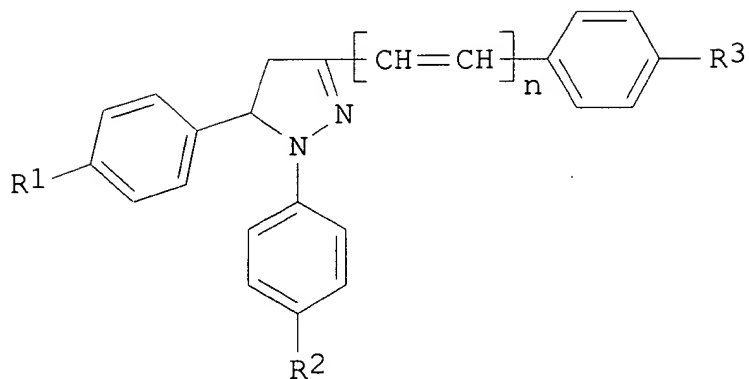
L36 ANSWER 25 OF 52 ZCA COPYRIGHT 2004 ACS on STN

129:283406 Electrophotographic photoreceptor with improved sensitivity and durability. Umeda, Minoru; Sakon, Yota; Ikegami, Takaaki; Kurimoto, Eiji (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10239877 A2 19980911 Heisei, 227 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-54083 19970221.

GI



I



II

AB The title photoreceptor contains I ($R_1 = \text{H, halo; } R_2 = \text{arom., heterocyclyl}$) and II ($R_1, R_3 = \text{H, lower alkyl, lower alkoxy, di-lower alkylamino; } R_2 = \text{H, lower alkyl, lower alkoxy, halo, NO}_2; n = 0, 1$) in a photosensitive layer. Other charge transport materials are also claimed with Markush structures.

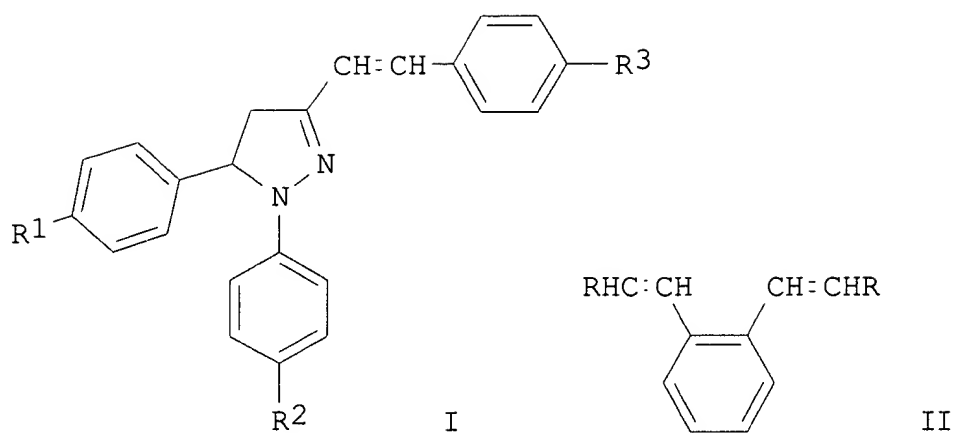
IT **124373-59-7**

(charge transport material in electrophotog. photoreceptor with improved sensitivity and durability)

L36 ANSWER 26 OF 52 ZCA COPYRIGHT 2004 ACS on STN

129:182078 Electrophotographic photoreceptor with high-sensitivity and superior durability for high quality images. Ikegami, Takaaki; Umeda, Minoru; Sakon, Yota; Kurimoto, Eiji (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10213915 A2 19980811 Heisei, 267 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-43127 19970128.

GI



AB The title photoreceptor has a photosensitive layer contg. charge-transporting material of ≥ 1 compd. from I ($R_1, R_3 = H$, lower alkyl, lower alkoxy, lower dialkyl amino; $R_2 = H$, lower alkyl, lower alkoxy, halo, nitro; $n = 0, 1$) and ≥ 1 compd. from II ($R =$ carbazolyl, pyridyl, thienyl, indolyl, furil, (substituted)phenyl, (substituted)styryl, (substituted)naphthyl, (substituted)anthryl with the substituent as lower dialkyl amino, lower alkyl, lower alkoxy, halo, aralkyl amino, amino) on an elec. conductive substrate.

IT **124373-59-7**

(combined with other charge-transporting material for electrophotog. photoreceptor with high-sensitivity and superior durability)

L36 ANSWER 27 OF 52 ZCA COPYRIGHT 2004 ACS on STN

128:121664 Electrophotographic photoreceptor with good charging property. Yamaguchi, Shinichirou; Kimura, Michio; Kubota, Tatsuya; Kioroshi, Takehiko (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09329905 A2 19971222 Heisei, 45 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-168361 19960607.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The photoreceptor contains ≥ 2 of I, II, and III ($Ar_1-3 =$ coupler residue; $R_1-2 = H$, halo, trifluoromethyl, nitro cyano; $R_3 = H, Cl, F, I, Br$, nitro, cyano) in a charge-generating layer and ≥ 2 of $Ar_5R_{14}C:CR_{15}(CH:CH)_nAr_6NR_{16}R_{17}$ ($R_{14}-17 = H$, alkyl, Ph;

Ar5 = aryl; Ar6 = arylene), IV (R18, R20-21 = H, amino, dialkylamino, alkoxy, thioalkoxy, aryloxy, methylenedioxy, alkyl, halo, aryl; R19 = H, alkoxyalkyl, halo; k,l,m,n = 1-4), and V (R22 = Me, Et, 2-chloroethyl; R23 = Me, Et, benzyl, Ph; R24 = H, Br, Cl-4 alkyl, Cl-4 alkoxy, dialkylamino, nitro) in a charge-transporting layer. The photoreceptor shows good charging properties and durability and provides sharp images.

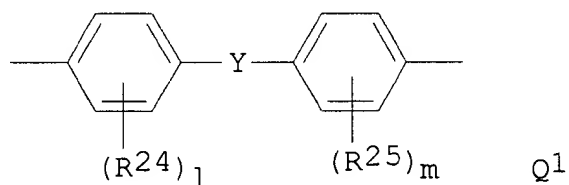
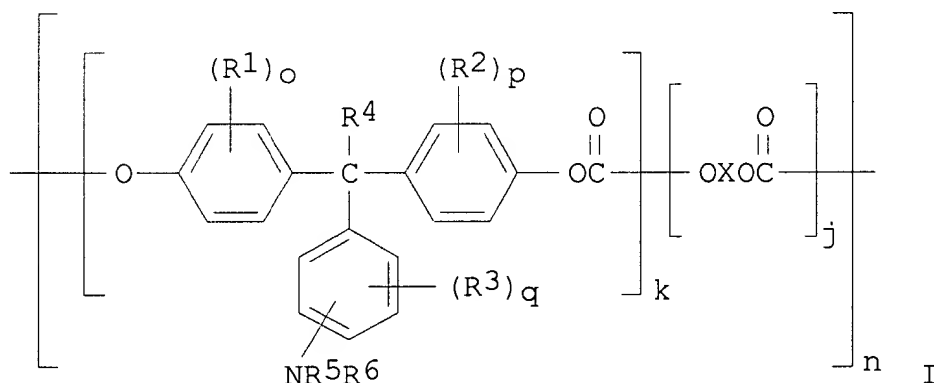
IT **124373-59-7**

(charge-transporting agent; electrophotog. photoreceptor contg. azo pigment charge-generating agent and amine compd. as charge-transporting agent)

L36 ANSWER 28 OF 52 ZCA COPYRIGHT 2004 ACS on STN

128:108430 Electrophotographic photoreceptor using polycarbonate charge-transporting agent. Kishida, Koshi; Tamura, Hiroshi; Arami, Tatsuya; Suzuki, Tetsuo; Kami, Hidenori (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09319122 A2 19971212 Heisei, 129 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-151815 19960524.

GI



AB The title photoreceptor comprises a conductive support coated with a photosensitive layer contg. a charge-generating agent, a low-mol.-wt. charge-transporting agent, and a polymer charge-transporting agent I [R1-3 = (substituted) alkyl or halo; R4 = H or (substituted) alkyl; R5-6 = (substituted) aryl; o, p, q =

0-4; $0.1 \leq k \leq 1$; $0 \leq j \leq 0.9$; $n =$
 5-5000; X = divalent (cyclic) aliph. group, Q1 [R24, R25 =
 (substituted) alkyl, aryl, halo; l, m = 0-4; Y = single bond, C1-12
 straight chain, branched or cyclic alkylene, O, S, SO, SO₂, CO,
 CO₂ZOCO (Z = divalent aliph. group)], (CH₂)_a(SiR₂₆R₂₇)_bSiR₂₆R₂₇(CH₂)_a [a = 1-20; b = 1-2000; R₂₆, R₂₇ = (substituted) alkyl or aryl]].
 The polymer charge-transporting agent may be
 [[OAr₂C(:CHAr₁NR₃R₄)Ar₃OCO]k(OXOCO)j]n,
 [[OAr₄C(:CHCH:CHAr₆NR₅R₆)Ar₅OCO]k(OXOCO)j]n,
 [[OAr₇CH((CH₂)rAr₉NR₇R₈)Ar₈OCO]k(OXOCO)j]n, II,
 [[OAr₁₅(Y₁Ar₁₃NR₁₁R₁₂)Y₃Ar₁₆(Y₂Ar₁₄NR₁₃R₁₄)OCO]k(OXOCO)j]n,
 [[OAr₁₈N(Ar₁₇CH:CR₁₅R₁₆)Ar₁₉OCO]k(OXOCO)j]n,
 [(OAr₂₀CH:CHAr₂₁NR₁₇Ar₂₂CH:CHAr₂₃OCO)k(OXOCO)j]n,
 [[OAr₂₄C(:CHAr₂₇NR₁₈R₁₉)Ar₂₅C(:CHAr₂₈NR₂₀R₂₁)Ar₂₆OCO]k(OXOCO)j]n or
 [(OAr₂₉NR₂₂Ar₃₀NR₂₃Ar₃₁OCO)k(OXOCO)j]n [R₃-14, R₁₇-23 =
 (substituted) aryl; R₁₅, R₁₆ = H or (substituted) aryl, R₁₅ and R₁₆
 may form a ring; Ar₁-31 = arylene; Y₁-3 = single bond, (substituted)
 alkylene, (substituted) cycloalkylene, (substituted) alkylene ether,
 O, S, vinylene; X₁, X₂ = (substituted) ethylene or vinylene; r =
 1-5; X, k, j, and n are same meanings as shown in I]. The
 photoreceptor shows high abrasion resistance in repeated use, high
 photosensitivity, and low residual potential.

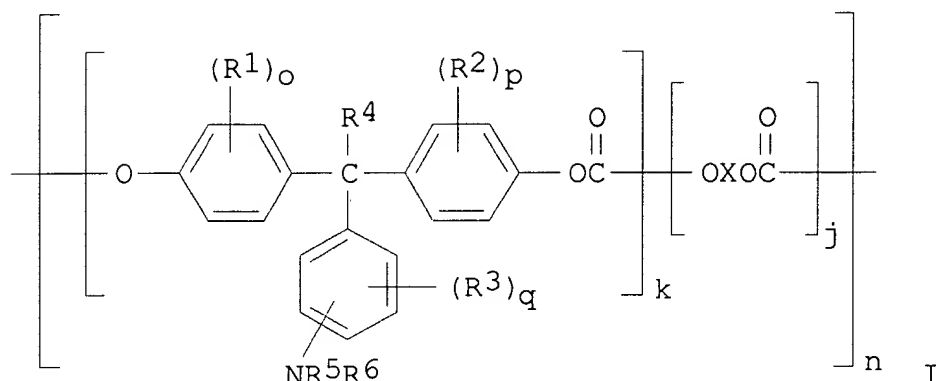
IT **124373-59-7**

(electrophotog. photoreceptor using polycarbonate and
 low.-mol.-wt. charge-transporting agents)

L36 ANSWER 29 OF 52 ZCA COPYRIGHT 2004 ACS on STN

128:108427 Electrophotographic photoreceptor using polycarbonate
 charge-transporting agent. Kishida, Hiroshi; Arami, Tatsuya;
 Tamura, Hiroshi; Suzuki, Tetsuo; Kami, Hidenori (Ricoh Co., Ltd.,
 Japan). Jpn. Kokai Tokkyo Koho JP 09319114 A2 19971212 Heisei, 82
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-151814
 19960524.

GI



AB The title photoreceptor, comprising a conductive support laminated with a charge-generating layer and a charge-transporting layer contg. a polymer charge-transporting agent I [R1-3 = (substituted) alkyl or halo; R4 = H or (substituted) alkyl; R5, R6 = (substituted) aryl; o, p, q = 0-4; $0.1 \leq k \leq 1$; $0 \leq j \leq 0.9$; n = 5-5000; X = divalent (cyclic) aliph. group, Q1 [R101, R102 = (substituted) alkyl, aryl, halo; l, m = 0-4; Y = single bond, C1-12 straight chain, branched or cyclic alkylene, O, S, SO, SO2, CO, CO2ZOCO (Z = divalent aliph. group)], (CH2)a(SiR103R104)bSiR103R104(CH2)a [a = 1-20; b = 1-2000; R103, R104 = (substituted) alkyl or aryl]], contains a charge-injecting layer based on a low-mol.-wt. charge-transporting agent between these layers. The polymer charge-transporting agent may be

[[OAr2C(:CHAR1NR7R8)Ar3OCO]k(OXOCO)j]n,
 [[OAr4C(:CHCH:CHAR6NR9R10)Ar5OCO]k(OXOCO)j]n,
 [[OAr7CH((CH2)pAr9NR11R12)Ar8OCO]k(OXOCO)j]n, II,
 [[OAr15(Y1Ar13NR15R16)Y3Ar16(Y2Ar14NR17R18)OCO]k(OXOCO)j]n,
 [[OAr18N(Ar17CH:CR19R20)Ar19OCO]k(OXOCO)j]n,
 [(OAr20CH:CHAR21NR21Ar22CH:CHAR23OCO)k(OXOCO)j]n,
 [[OAr24C(:CHAR27NR22R23)Ar25C(:CHAR28NR24R25)Ar26OCO]k(OXOCO)j]n or
 [(OAr29NR26Ar30NR27Ar31OCO)k(OXOCO)j]n [R7-18, R21-27 = (substituted) aryl; R19, R20 = H or (substituted) aryl, R19 and R20 may form a ring; Ar1-31 = arylene; Y1-3 = single bond, (substituted) alkylene, (substituted) cycloalkylene, (substituted) alkylene ether, O, S, vinylene; X1, X2 = (substituted) ethylene or vinylene; p = 1-5; X, k, j, and n are same meanings as shown in I]. The photoreceptor shows high photosensitivity and low residual potential.

IT 124373-59-7

(electrophotog. photoreceptor with charge-injection layer contg. charge-transporting agent)

L36 ANSWER 30 OF 52 ZCA COPYRIGHT 2004 ACS on STN

127:5191 Preparation of silicon-containing tertiary aromatic amines as charge transport compounds. Kushibiki, Nobuo; Takeuchi, Kikuko (Dow Corning Asia, Ltd., Japan). Eur. Pat. Appl. EP 771806 A1 19970507, 31 pp. DESIGNATED STATES: R: BE, DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1996-117733 19961106. PRIORITY: JP 1995-287634 19951106.

AB A Si-contg. charge transporting material $A[R_1SiR_23-nQ_n]_p$ wherein A denotes an org. group derived from a charge transporting compd. having an ionization potential within the range of 4.5-6.2 eV, which is a tertiary amine having a plurality of arom. groups, R_1 is an alkylene group of 1-18 C atoms, R_2 is a monovalent hydrocarbon group or a halogen-substituted monovalent hydrocarbon group of 1-15 C atoms, Q is a hydrolyzable group; and n and p are each integers from 1-3. E.g., 4-[(EtO)₃SiCH₂CH₂]₃C₆H₄NPh₂ is prepd. in 92% yield from the hydrosilylation of (4-vinylphenyl)diphenylamine (1) with (EtO)₃SiH and tris(tetramethyldivinylidisiloxane)diplatinum catalyst. 1 Was prepd. in 84% yield from a Wittig reaction (NaH/Me₄PBr/1,2-dimethoxyethane) of 4-(Ph₂N)C₆H₄CHO (prepd. from Ph₃N using P(O)Cl₃/DMF reagent in 81% yield).

IT 124373-59-7
(oxidn. and ionization potentials of)

L36 ANSWER 31 OF 52 ZCA COPYRIGHT 2004 ACS on STN

127:5190 Method of manufacturing a silicon-containing charge-transporting material. Kushibiki, Nobuo; Takeuchi, Kikuko (Dow Corning Asia, Ltd., Japan). Eur. Pat. Appl. EP 771807 A1 19970507, 30 pp. DESIGNATED STATES: R: BE, DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1996-117734 19961106. PRIORITY: JP 1995-287644 19951106.

AB A method is disclosed of manufg. charge transporting materials which impart a charge transporting property to a polysiloxane resin, and which materials are sol. in the resin. The charge transporting material is an arom. substituted tertiary amine with a plurality of arom. groups, and a silyl group introduced via a hydrocarbon group, into at least one of the arom. groups. The method uses an unsatd. aliph. group bonded to an arom. group which makes up the Si-type charge transporting compd., or employs a newly bonded unsatd. aliph. group which is bonded to a silane in which the substituent for Si is H atom or a hydrolyzable group. This is conducted in the presence of a Pt compd. as catalyst by hydrosilylation. The Si-type charge transporting material is then brought into contact with an adsorbent for the Pt compd., causing the Pt compd. to be adsorbed on to the adsorbent. The Pt compd. is removed along with the adsorbent, so that the concn. of residual Pt compd. is <10 ppm. E.g., (4-vinylphenyl)diphenylamine reacts with (EtO)₃SiH in toluene in the presence of tris(tetramethyldivinylidisiloxane)diplatinum catalyst to give 4-[(EtO)₃SiCH₂CH₂]₃C₆H₄NPh₂.

IT 124373-59-7

(oxidn. and ionization potential of)

L36 ANSWER 32 OF 52 ZCA COPYRIGHT 2004 ACS on STN

126:74551 Preparation of purified electrophotographic charge-transporting agents with activated carbon. Ootani, Takehiko; Tachibana, Yoshisumi; Kamezawa, Makoto; Izumitani, Seiji; Asaoka, Atsushi (Konan Chemical Mfg, Japan). Jpn. Kokai Tokkyo Koho JP 08283180 A2 19961029 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-84278 19950410.

AB Crude charge-transporting agents for electrophotog. photoreceptors are purified with activated C. Purifn. may be carried out by dissolving the charge-transporting agents in org. solvents followed by mixing the solns. with activated C or by passing the solns. through a filter or a column packed with activated C. The charge-transporting agents may be A1A2A3N [A1-3 = (un)substituted aryl, heteroaryl] or A4CH:NNR1R2 [A4 = (un)substituted aryl, heteroaryl' R1-2 = (un)substituted aryl, heteroaryl, alkyl, aralkyl; R1 and R2 may be bonded together to form a ring]. Activated C may have particle size 5-400 mesh, sp. area 900-2000 m²/g, pore size 10-100 Å, and pore vol. 0.5-1.5 mL/g. A mixt. of 4,4-ditolylamine, 4-methyl-4-iodobiphenyl, K₂CO₃, Cu, and o-C₆H₄Cl₂ was stirred while removing H₂O at 190-200° for 6 h to give crude 4-methyl-4'-[N,N-bis(4-methylphenyl)amino]biphenyl (I). The crude I was dissolved in heptane/AcOEt and the soln. was treated with Shirasagi (activated C) under stirring at room temp. for 30 min to give 79% I with purity 99.8%.

IT 124373-59-7P

(prepn. of electrophotog. charge-transporting agents and their purifn. with activated C)

L36 ANSWER 33 OF 52 ZCA COPYRIGHT 2004 ACS on STN

125:346516 Aromatic tertiary amine-containing film for measurement of exposure amount by ozone. Ariga, Tamotsu; Adachi, Hiroshi (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08226916 A2 19960903 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-33840 19950222.

AB The film contains NA1A2A3 [A1-3 = (substituted) arom. group]. The compd. working as an O₃ probe showed high soly. to become easier for coating on substrates.

IT 124373-59-7

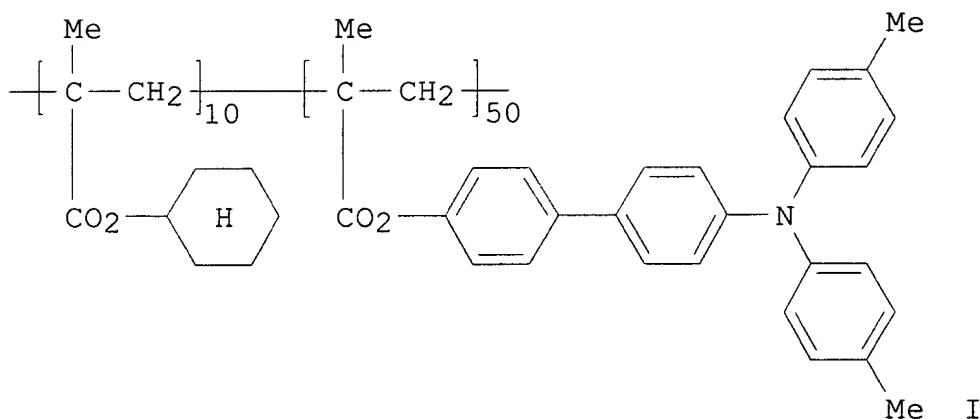
(arom. tertiary amine-contg. film for measurement of exposure amt. by ozone)

L36 ANSWER 34 OF 52 ZCA COPYRIGHT 2004 ACS on STN

125:127711 Electrophotographic photoreceptor with decreased dark decay. Umeda, Minoru; Niimi, Tatsuya (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 08101523 A2 19960416 Heisei, 13 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 1994-259371 19940929.

GI



AB The title photoreceptor comprises a conductive support with an undercoat layer contg. polymeric and low-mol.-wt. charge-transporting substances and a photosensitive layer. The photosensitive layer shows good adhesion to the support and the photoreceptor exhibits decreased dark decay and low residual potential in repeated use. Thus, an Al vapor-deposited polyester film was coated with an undercoat layer contg. I and p-MeC₆H₄C₆H₄N(C₆H₄Me-p)₂-p and a photoconductive layer contg. a pyrylium compd. and a pos. hole-transporting substance to give a photoreceptor.

IT 124373-59-7

(electrophotog. photoreceptor with undercoat layer contg. charge-transporting agent)

L36 ANSWER 35 OF 52 ZCA COPYRIGHT 2004 ACS on STN

123:270709 Electrophotographic photosensitive member and electrophotographic apparatus, device unit and facsimile machine using the same. Maruyama, Akio; Kikuchi, Toshiro; Amamiya, Shoji; Nagahara, Shin; Aoki, Katsumi (Canon K. K., Japan). U.S. US 5422210 A 19950606, 43 pp. Cont.-in-part of U.S. Ser. No. 852,720, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1992-968465 19921029. PRIORITY: JP 1991-77292 19910318; JP 1991-77290 19910318; JP 1991-77291 19910318; US 1992-852720 19920317; JP 1992-62306 19920318.

AB An electrophotog. photosensitive member comprises a conductive support, a photosensitive layer and a protective layer, the

protective layer contg. resin formed by hardening a light-setting type acrylic monomer, and the photosensitive layer contg. ≥ 1 compd. selected from the group consisting of (A), (B) and (C) below:
 (A) styryl compds. $(Ar1)(Ar2)N-Ar3-(CH:C(R2))_n-R1$ (m.p. $\leq 135^\circ$) [Ar1 and Ar2 are arom. ring groups, Ar3 is a bivalent arom. ring group or a bivalent heterocyclic group, R1 is an alkyl group or an arom. ring group, R2 is a H atom, an alkyl group or an arom. ring group, and n is 1 or 2, R1 and R2 possibly linking to form a ring when n = 1]; (B) triarylamine compd. having a structure expressed by the following formula $Ar4Ar5NAr6$ (m.p. $\leq 150^\circ$) [Ar4, Ar5 and Ar6 = arom. ring group or a heterocyclic group]; (C) hydrazone compds. $A-[CR3:NNR4R5]_m$ (m.p. $\leq 155^\circ$) [R3 is a H atom or an alkyl group, R4 and R5 are alkyl groups, aralkyl groups or arom. ring groups, m is 1 or 2, A is an arom. ring group, a heterocyclic group or $-CH:C(R6)R7$ (R6 and R7 are H atoms, arom. ring groups or heterocyclic groups, but will never be H atoms at the same time)]. The photosensitive member suppresses the occurrence of cracks during forming of the protective layer, has high durability, and is free from any image defects.

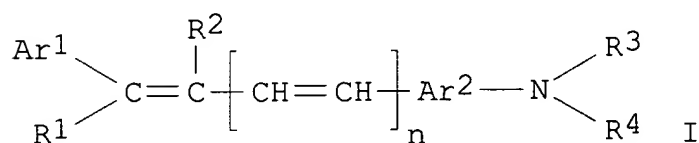
IT 124373-59-7

(charge transport agent for electrophotog. photoconductor)

L36 ANSWER 36 OF 52 ZCA COPYRIGHT 2004 ACS on STN

123:70301 Electrophotographic photoreceptor. Yamaguchi, Shinichiro; Kimura, Michio (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07092705 A2 19950407 Heisei, 34 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-233218 19930920.

GI



AB In the title electrophotog. photoreceptor comprising on its elec. conductive support at least a charge-generating layer and a charge-transporting layer, the charge-transporting layer contains I [R1-4 = H, aryl; Ar1 = aryl; Ar2 = arylene; Ar1 and R1 may form a ring; n = 0,1] and N,N'-diphenylaminobiphenyl compd., a hydrazine compd., or a tertiary amine compd. having a condensed polycyclic group.

IT 124373-59-7

(electrophotog. photoreceptor charge-transporting layer contg.)

L36 ANSWER 37 OF 52 ZCA COPYRIGHT 2004 ACS on STN

122:118953 Single-layer electrophotographic photoreceptor. Yoshikawa, Masao; Kojima, Akio; Shoji, Masayuki; Teramura, Kaoru; Kawahara, Emi; Koyano, Masayuki; Kurosu, Hisao; Yamada, Ikuko; Ichikawa, Yumi (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06289639 A2 19941018 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-95640 19930330.

AB The photoreceptor has an org. photosensitive layer where X-type metal-free phthalocyanine, an org. acceptor, and an org. hole-transporting substance Ar1NAr2Ar3 (Ar1-3 = aryl, heterocyclic group; Ar1-3 may be substituted with alkyl, alkoxy, thioalkoxy, aryloxy, halo, CN, NO2, or NH2) are dispersed in a binder. The photoreceptor showed good reproducibility and high sensitivity.

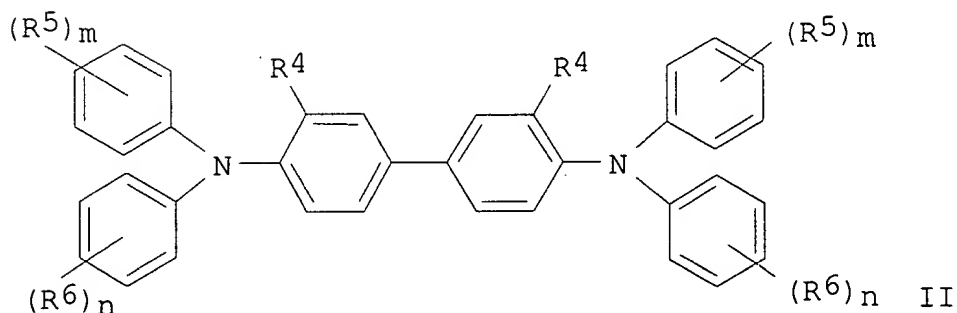
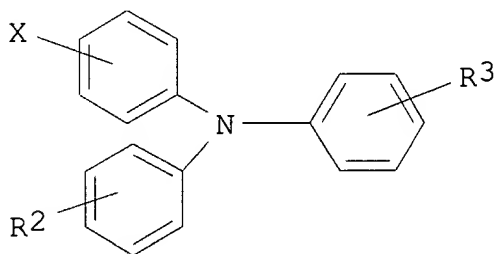
IT 124373-59-7

(hole-transporting agent; single-layer electrophotog. photoreceptor contg. org. hole-transporting substance and phthalocyanine)

L36 ANSWER 38 OF 52 ZCA COPYRIGHT 2004 ACS on STN

121:311873 Electrophotographic photoreceptor with high sensitivity in near IR region. Myamoto, Hiroshi; Nakamura, Kazuyuki; Suzuki, Takahiro; Nukada, Katsumi; Imai, Akira; Shirai, Masaharu (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06075408 A2 19940318 Heisei, 21 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-248931 19920826.

GI



AB In the title photoreceptor having a photosensitive layer on a conductive support, the photosensitive layer comprises chloro gallium phthalocyanine crystal as a charge generating material and I ($X = (R1)_k$; $R1 = \text{alkyl, aryl, aralkyl}$; $R2, R3 = H, \text{alkyl, aryl, aralkyl}$; $k = 0-2$) as a charge transporting material. The charge transporting material may be a mixt. of I and II ($R4 = H, \text{alkyl, alkoxy}$; $R5, R6 = \text{halo, alkyl, alkoxy, alkoxy carbonyl, substituted amine}$; $m, n = 0-2$).

IT 124373-59-7

(charge transporting material of electrophotog. photoreceptor with high sensitivity in near IR region)

L36 ANSWER 39 OF 52 ZCA COPYRIGHT 2004 ACS on STN

121:311858 Electrophotographic organic photoreceptor with high sensitivity and low residual charge. Niimi, Tatsuya; Umeda, Minoru (Ricoh Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06035212 A2 19940210 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-188020 19920715.

AB In the title photoreceptor having sep. charge-generation and charge-transport layers on a conductive support, the charge transport material in the charge transport layer has a fluorescence lifetime < 1 ns. In the title photoreceptor having the charge-generation material and the charge-transport material in the same layer, the charge-transport material has a fluorescence lifetime < 1 ns.

IT 124373-59-7

(charge transport material; electrophotog. org. photoreceptor with high sensitivity and low residual charge)

L36 ANSWER 40 OF 52 ZCA COPYRIGHT 2004 ACS on STN

121:191210 High sensitivity and durable organic electrophotographic photoreceptor. Kikuchi, Norihiro; Senoo, Akihiro; Kanamaru, Tetsuo; Tanaka, Takakazu (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05303219 A2 19931116 Heisei, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-129425 19920423.

AB The photosensitive layer of the title photoreceptor contains > 2 kinds of aryl amine compds. $A1A2NA3$ [$A1-3 = (\text{sub})\text{aryl,} (\text{sub})\text{heterocyclyl}$] of which ≥ 1 of them has a m.p. $< 150^\circ$. The aryl amine compds. are used as charge transport substances having high capability for transporting holes and the photoreceptor shows high sensitivity and voltage stability for repeated use.

IT 124373-59-7

(electrophotog. charge transport substance)

L36 ANSWER 41 OF 52 ZCA COPYRIGHT 2004 ACS on STN

121:22447 Electrophotographic photosensitive member. Kanemaru, Tetsuro; Kikuchi, Toshihiro; Senoo, Akihiro; Tanaka, Takakazu (Canon K. K., Japan). Eur. Pat. Appl. EP 567396 A1 19931027, 79 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1993-401030 19930421. PRIORITY: JP 1992-129417 19920423; JP 1992-129421 19920423; JP 1992-129426 19920423.

AB An electrophotog. photosensitive member is constituted by disposing a photosensitive layer on an electroconductive support. The photosensitive layer is characterized by contg. a specific fluorene compd. or by contg. another specific fluorene compd. and a specific triphenylamine compd. The photosensitive layer is suitable for providing an electrophotog. app. showing excellent electrophotog. characteristics such as high photosensitivity, good potential stability in repetitive use, decreased transfer memory, no crack in the photosensitive layer and no crystn. of charge-transporting material.

IT 124373-59-7

(photosensitive compns. contg., for electrophotog photoreceptors)

L36 ANSWER 42 OF 52 ZCA COPYRIGHT 2004 ACS on STN

120:311482 Electrophotographic photoreceptor. Nukada, Katsumi; Daimon, Katsumi; Sakaguchi, Yasuo; Yamazaki, Kazuo; Kojima, Fumio; Nishikawa, Masayuki; Igarashi, Ryosaku; Mashita, Kyokazu (Fuji Xerox Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05249716 A2 19930928 Heisei, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-83032 19920306.

AB The title photoreceptor contains hydroxygallium phthalocyanine crystals as charge-generating material. The title photoreceptor contains arylamine (Markush structures given) as charge-transporting material. Ph₃N is an example of said arylamine. The title photoreceptor shows high sensitivity.

IT 124373-59-7

(electrophotog. photoreceptor contg.)

L36 ANSWER 43 OF 52 ZCA COPYRIGHT 2004 ACS on STN

120:41927 Electrophotographic photoreceptor containing charge-transporting triarylamine compound. Tsuji, Haruyuki; Maruyama, Akio; Kikuchi, Norihiro; Nagahara, Susumu; Amamya, Shoji; Sakai, Kyoshi; Fujimura, Naoto (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05034958 A2 19930212 Heisei, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-213144 19910731.

AB In an electrophotog. photoreceptor having a photosensitive layer and a protective layer on a conductive support, the protective layer contains a polyester resin and a photohardenable resin and the photosensitive layer contains a charge-transporting triarylamine compd. AlA2NA3 [Al-3 = arom. group, heterocyclyl] having m.p. ≤150°.

IT 124373-59-7

(charge-transporting compd., electrophotog. photoreceptor contg.)

L36 ANSWER 44 OF 52 ZCA COPYRIGHT 2004 ACS on STN

119:82826 Electrophotographic photosensitive member and electrophotographic apparatus, device unit and facsimile machine using the same. Maruyama, Akio; Kikuchi, Toshihiro; Amamiya, Shoji; Nagahara, Shin; Aoki, Katsumi; Tsuji, Haruyuki (Canon K. K., Japan). Eur. Pat. Appl. EP 504794 A1 19920923, 67 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1992-104575 19920317. PRIORITY: JP 1991-77290 19910318; JP 1991-77291 19910318; JP 1991-77292 19910318.

AB The title material comprises a conductive support, a photosensitive layer and a protective layer, the protective layer contg. resin formed by hardening a light-setting type acrylic monomer, and the photosensitive layer contg. ≥ 1 compd. selected from the group consisting of (A), (B) and (C) below: (A) styryl compds. having a structure $\text{Ar1Ar2NAr3}(\text{CH:CR2})_n\text{R1}$ and a m.p. $\leq 135^\circ$. [Ar1 and Ar2 are arom. ring groups, Ar3 is a bivalent arom. ring group or a bivalent heterocyclic group, R1 is an alkyl group or an arom. ring group, R2 is a H atom, an alkyl group or an arom. ring group, and n is 1 or 2, R1 and R2 possibly linking to form a ring when n = 1]; (B) triarylamine compds. having a structure Ar4Ar5NAr6 and m.p. $\leq 150^\circ$ [Ar4, Ar5 and Ar6 are each an arom. ring group or a heterocyclic group]; (C) hydrazone compds. having a structure $\text{A}[\text{C}(\text{R3}): \text{NNR4R5}]_m$ [R3 is a H atom or an alkyl group, R4 and R5 are alkyl groups, aralkyl groups or arom. ring groups, m is 1 or 2, A is an arom. ring group, a heterocyclic group, or - CH:CR6R7 (R6 and R7 are H atoms, arom. ring groups or heterocyclic groups, but will never be h atoms at the same time). The photosensitive member suppresses the occurrence of cracks during forming of the protective layer, has high durability, and is free from any image defects.

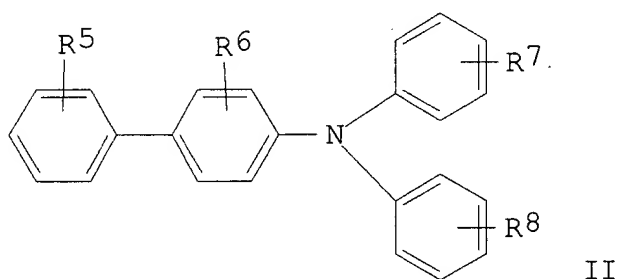
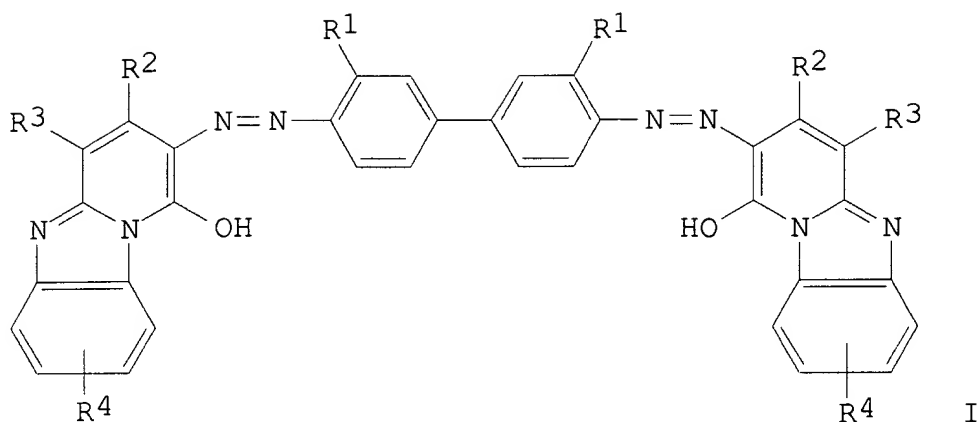
IT 124373-59-7

(electrophotog. plate with protective layer contg., for crack redn.)

L36 ANSWER 45 OF 52 ZCA COPYRIGHT 2004 ACS on STN

118:29964 Electrophotographic photoreceptors using bisazo compound and biphenylamine derivative. Kawate, Kenji; Kuroda, Masami; Amano, Masayo; Shiraishi, Yotaro; Kosho, Noboru (Fuji Electric Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04190235 A2 19920708 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-318708 19901124.

GI



AB The photoreceptors comprise a photosensitive layer contg. ≥ 1 bisazo compd. I [R_1 = halo, alkyl, alkoxy; R_2 = alkyl; R_3 = H, CN, CONH₂, CO₂H, ester, acyl; R_4 = H, halo, NO₂, alkyl, alkoxy] and ≥ 1 biphenylamine deriv. II [R_5 , R_7-8 = H, halo, alkoxy, alkyl or aryl; R_6 = H, halo, alkoxy, alkyl or aryl]. The photoreceptors show high photosensitivity in both pos. and neg. charging processes and good durability. Thus, an Al vapor-deposited polyester film was coated with a charge-generating layer contg. I (R_1 = Cl, R_2 = Me, R_3 = CN, R_4 = H) and with a charge-transporting layer contg. p-PhC₆H₄NPhC₆H₄Me-p to give a photoreceptor.

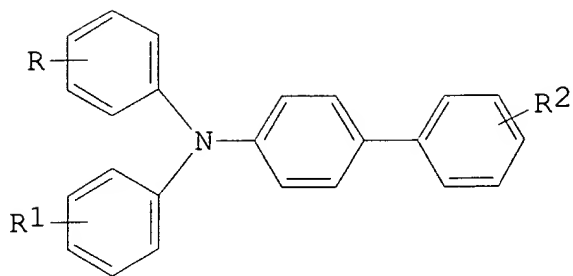
IT **124373-59-7**

(charge-transporting agent, electrophotog. photoreceptor using)

L36 ANSWER 46 OF 52 ZCA COPYRIGHT 2004 ACS on STN

116:224679 Electrophotographic photoreceptors using oxytitanium phthalocyanine and biphenyl derivative. Kikuchi, Norihiro; Senoo, Akihiro; Kanamaru, Tetsuo (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03181951 A2 19910807 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-320519 19891212.

GI



II

AB The photoreceptors contain oxytitanium phthalocyanine (I) crystal showing main peaks at Bragg's angle ($2\theta \pm 0.2^\circ$) 9.0, 14.2, 23.9, and 27.1° in x-ray diffraction spectrum from CuK α line, and ≥ 1 biphenyl deriv. II (R, R1 = alkyl, alkoxy; R2 = alkyl, aralkyl, alkoxy, OH, halo). The photoreceptors show good sensitivity toward semiconductor lasers, potential stability in repeated use and environmental stability. Thus, an Al substrate with an undercoat layer was coated with a charge-generating layer contg. I and with a charge-transporting layer contg. (p-MeC6H4)2NC6H4-p-C6H4Me-p to give a photoreceptor.

IT 124373-59-7

(charge-transporting agent, electrophotog. photoreceptor using)

L36 ANSWER 47 OF 52 ZCA COPYRIGHT 2004 ACS on STN

116:95727 Electrophotographic photoconductors. Senoo, Akihiro; Kanamaru, Tetsuo; Kikuchi, Norihiro (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03174542 A2 19910729 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-313273 19891204.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Charge-generating layer of the photoconductors contain phthalocyanines I [R1 = H, halo; m = 1-4; M = metal atoms except alkali metals; n = 0 when M is bivalent; Y = halo, alkyl or alkoxy and n = 1 when M is trivalent; Y = O, halo, alkyl or alkoxy when M is tetravalent (n = 1 when Y = O, n = 1 when Y \neq O)], and charge-transporting layer contains biphenyl deriv. II (R2-3 = alkyl, alkoxy; R4 = alkyl, alkoxy, aralkyl, OH, halo). Biphenyl derivs. III may be used in place of II (R5-7 = alkyl, alkoxy). The photoconductors have high sensitivity in wavelength region of laser diodes, and stable performance. Thus, an Al sheet undercoated with maleic acid-vinyl acetate-vinyl chloride copolymer was coated with a 0.4- μ m-thick charge-generating layer contg. I (R1 = H, m = 1, M =

Ti, Y = O, n = 1) and butyral resin, and a 17- μ m-thick charge-transporting layer contg. compd. IV and polycarbonate. The obtained photoconductor was charged to -715 V, which decayed to -700 V after 1 s, and sensitivity (lux-s required to decay charged voltage to 1/5) 0.36. High image quality was obtained at 3 different temp. and humidity environments, and after 10,000 copying.

IT 124373-59-7

(as charge-transporting agent, electrophotog. photoconductors contg.)

L36 ANSWER 48 OF 52 ZCA COPYRIGHT 2004 ACS on STN

116:48879 Electrophotographic photoconductors containing bisazo dyes and biphenyl derivatives. Kanamaru, Tetsuo; Kikuchi, Norihiro; Senoo, Akihiro (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 03211559 A2 19910917 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-6411 19900117.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Charge-generating layers of the photoconductors contain bisazo dyes I (R1 = Ph, o-tolyl, 2-ethylphenyl, 2,5-xylyl, 2,4-xylyl, 2-methyl-5-nitrophenyl, 2-methyl-4-methoxyphenyl, 2-ethyl-5-nitrophenyl, 2-methyl-5-chlorophenyl; X = halo), and charge-transporting layers contain biphenyl derivs. II (R2-3 = H, alkyl, alkoxy; R4 = alkyl, alkoxy, aralkyl, OH, halo). Biphenyl derivs. III (R5-7 = alkyl, alkoxy) may be used in place of II. The photoconductors have high sensitivity in the wavelength region of laser diodes, and give stable performance. Thus, an Al sheet undercoated with maleic acid-vinyl acetate-vinyl chloride copolymer was coated with a 0.4- μ m-thick charge-generating layer contg. dye I (R1 = 2-ethylphenyl, X = Cl) and butyral resin, and a 17- μ m-thick charge-transporting layer contg. compd. III (R5-7 = p-methyl) and polycarbonate. The obtained photoconductor was charged to -710 V, which decayed to -702 V after 1 s, with sensitivity (lux-s required to decay charged voltage to 1/6) 1.56. High image quality was obtained in 3 different temp. and humidity environments, and after 10,000 copies.

IT 124373-59-7

(charge-transporting agent, electrophotog. photoconductors contg.)

L36 ANSWER 49 OF 52 ZCA COPYRIGHT 2004 ACS on STN

115:170898 Electrophotographic photoconductors. Niimi, Tatsuya; Umeda, Minoru (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03056967

A2 19910312 Heisei, 21 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1989-192870 19890726.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Charge carrier-generating layer of the photoconductors contain I and/or II (R1, R3-4 = H, amino, alkoxy, thioalkoxy, aryloxy, methylenedioxy, aryl; R2 = H, alkoxy, alkyl, halo; R1-4 are not simultaneously H; k, l, m, n = 1-4; Ar = arylene; R5 = H, alkyl, alkoxy, aryloxy, dialkylamino, diarylamino, halo; R6-7 = alkyl, aryl; p = 1, 2). These agents provide much suppressed decrease of chargeability by previous exposure, and prompt increase of charged voltage after charging-exposure cycles. Thus, an Al-coated PET film was coated with a charge-generating layer contg. 2 parts bisazo dye III and 0.9 parts IV and poly(vinyl butyral), and with a charge-transporting layer contg. IV and polycarbonate. Obtained photoconductor was chargeable to -430 V by 1-s charging, and showed dark decay (10 s) to 81% voltage, and sensitivity (exposure required for half decay of voltage) 1.32 lx-s. After repeating charging and exposure for 30 min, the photoconductor was chargeable by 1-s charging to -432 V, and showed dark decay to 86% voltage and sensitivity 1.42 lx-s.

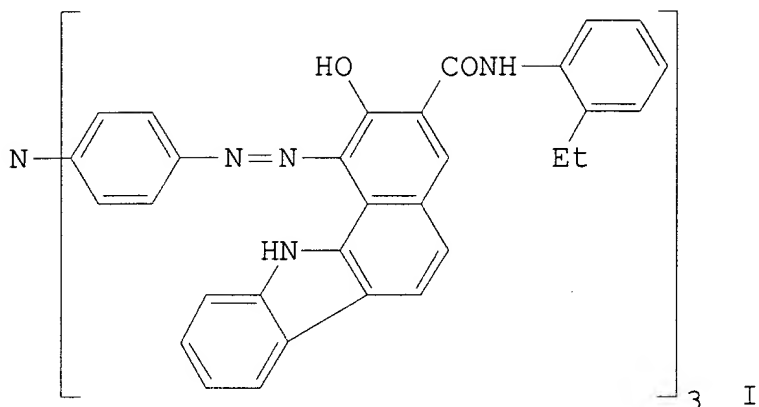
IT 124373-59-7

(charge-generating layer of electrophotog. photoconductors contg. charge-generating agent and, for prompt charging behavior)

L36 ANSWER 50 OF 52 ZCA COPYRIGHT 2004 ACS on STN

115:123847 Electrophotographic photoreceptor containing trisazo dye and tertiary amine. Ariga, Tamotsu; Sasaki, Masaomi; Shimada, Tomoyuki (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03051854 A2 19910306 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-186036 19890720.

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AB The photoreceptor contains a trisazo dye I as a charge-generating agent and ≥ 1 tertiary amine $R_1NR_2mR_3n$ [R_1 = (substituted) phenyl; R_2, R_3 = (substituted) biphenyl; $l, m, n = 0, 1, 2$; $l + m + n = 3$] as a charge-transporting agent. A photoreceptor contg. I and $Ph_2N(PhMe)_2$ gave a clear image and showed high sensitivity on semiconductor laser irradiation.

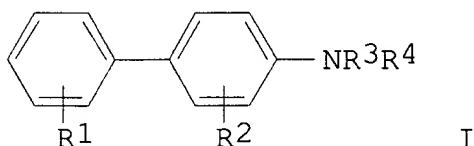
IT **124373-59-7**

(charge-transporting agent, in electrophotog. photoreceptor)

L36 ANSWER 51 OF 52 ZCA COPYRIGHT 2004 ACS on STN

114:72303 Photosensitive member for electrophotography. Senoo, Akihiro; Yashiro, Ryoji; Kanemaru, Tetsuro; Kikuchi, Toshihiro (Canon K. K., Japan). Brit. UK Pat. Appl. GB 2226653 A1 19900704, 28 pp. (English). CODEN: BAXXDU. APPLICATION: GB 1989-29200 19891227. PRIORITY: JP 1988-330997 19881229.

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AB A photosensitive member is described having a photosensitive layer contg. a charge-transport agent from I [$R_1, R_2 = H, \text{alkyl, alkoxy}$; $R_3, R_4 = \text{benzene ring}$, ≥ 1 of R_3 and R_4 is electro-donating substituent]. The photoconductor is easy to produced, relatively inexpensive, and excellent in durability. Thus, $C_6H_5-p-C_6H_4-N(-p-C_6H_4Me)_2$ was produced, and used in a

photoconductor.

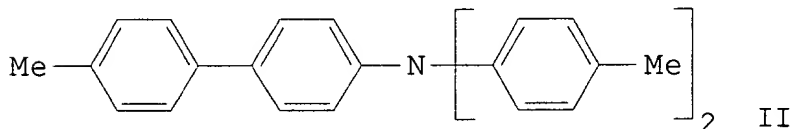
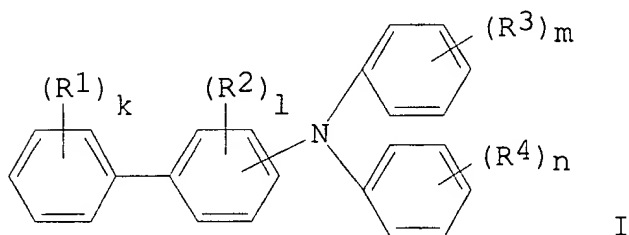
IT 124373-59-7

(as charge-transporting agent in electrophotog. photoconductor)

L36 ANSWER 52 OF 52 ZCA COPYRIGHT 2004 ACS on STN

112:27986 N,N-diphenylaminobiphenyl derivatives as charge-transporting agents for electrophotographic photoconductors. Shimada, Tomoyuki; Sasaki, Masaomi; Hashimoto, Mitsuru; Aruga, Tamotsu (Ricoh Co., Ltd., Japan). Ger. Offen. DE 3835791 A1 19890503, 36 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1988-3835791 19881020. PRIORITY: JP 1987-265662 19871020; JP 1988-10330 19880119; JP 1988-37234 19880219; JP 1988-97464 19880419.

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AB Aminobiphenyl compds. of the formula I [R1 = H, C1-4 alkyl, C1-4 alkoxy, C1-4 thioalkoxy, aryloxy, methylenedioxy, aralkyl, NO2, or (un)substituted aryl; R2 = H, C1-4 alkyl, C1-4 alkoxy, or halogen; R3, R4 = H, C1-4 alkyl, C1-4 alkoxy, halogen, dialkylamino, NH2, C1-4 thioalkoxy, aryloxy, methylenedioxy, aralkyl, or (un)substituted aryl; k, m, n = 0-5; l = 0-4] are described for use as charge-transporting agents or as photoconductive materials for electrophotog. photoconductors and recording materials. An Al-coated polyester film was over coated with a dispersion contg. Diane blue, Vylon 200, and THF to give a charge-generating layer and then with a dispersion contg. II, Panlite K 1300, and THF to give a charge-transporting layer. The resulting photoreceptor was corona charged to give a surface potential of -1100 V and the amt. of light energy required to decrease the surface potential by 1/2 was 1.62 lx-s.

IT 124373-59-7

(electrophotog. photoreceptor contg., as charge-transporting agent)